

# Publications

Björn W. Schuller

09.01.2023

h-index: **101** (Google Scholar)

Citations: **51 464** (Google Scholar)

## A) BOOKS

### Books Authored (7):

- 1) Amiriparian, S., Bühlmeier, A., Henkelmann, C., Schmitt, M., Schuller, B., and Zeigermann, O. (2019b). *Einstieg ins Machine Learning*. entwickler.press shortcuts. entwickler.press/S&S Media Group. 70 pages
- 2) Schuller, B. W. (2018h). *I Know What You're Thinking: The Making of Emotional Machines*. Princeton University Press. to appear
- 3) Balahur-Dobrescu, A., Taboada, M., and Schuller, B. W. (2017). *Computational Methods for Affect Detection from Natural Language*. Computational Social Sciences. Springer. to appear
- 4) Schuller, B. (2013b). *Intelligent Audio Analysis*. Signals and Communication Technology. Springer. 350 pages
- 5) Schuller, B. and Batliner, A. (2013). *Computational Paralinguistics: Emotion, Affect and Personality in Speech and Language Processing*. Wiley
- 6) Kroschel, K., Rigoll, G., and Schuller, B. (2011). *Statistische Informationstechnik*. Springer, Berlin/Heidelberg, 5 edition
- 7) Schuller, B. (2007). *Mensch, Maschine, Emotion – Erkennung aus sprachlicher und manueller Interaktion*. VDM Verlag Dr Müller, Saarbrücken. 239 pages

### Books Edited (7):

- 8) Schuller, B. W., Pham, P. N., Do, S., Pattichis, C. S., and Nair, P., editors (2022g). *Health Technologies and Innovations to Effectively Respond to the COVID-19 Pandemic*. Frontiers in Digital Health. Frontiers Media, 1 edition. 197 pages
- 9) Quadrianto, N., Schuller, B. W., and Lattimore, F. R., editors (2022). *Ethical Machine Learning and Artificial Intelligence (AI)*. Frontiers in Artificial Intelligence and Frontiers in Big Data. Frontiers Media, 1 edition. 85 pages
- 10) Costin, H. N., Schuller, B. W., and Florea, A. M., editors (2020). *Recent Advances in Intelligent Assistive Technologies: Paradigms and Applications*. Intelligent Systems Reference Library. Springer, 1 edition
- 11) Oviatt, S., Schuller, B., Cohen, P., Sonntag, D., Potamianos, G., and Krüger, A., editors (2019). *The*

*Handbook of Multimodal-Multisensor Interfaces Volume 3 – Multimodal Language Processing, Software Tools, Commercial Applications and Emerging Directions*. Number 23 in ACM Books. ACM Books, Morgan & Claypool. 789 pages

- 12) Oviatt, S., Schuller, B., Cohen, P., Sonntag, D., Potamianos, G., and Krüger, A., editors (2018). *The Handbook of Multimodal-Multisensor Interfaces Volume 2 – Signal Processing, Architectures, and Detection of Emotion and Cognition*. Number 21 in ACM Books. ACM Books, Morgan & Claypool. 531 pages
- 13) Oviatt, S., Schuller, B., Cohen, P., Sonntag, D., Potamianos, G., and Krüger, A., editors (2017). *The Handbook of Multimodal-Multisensor Interfaces Volume 1 – Foundations, User Modeling, and Common Modality Combinations*. Number 14 in ACM Books. ACM Books, Morgan & Claypool. 661 pages
- 14) D'Mello, S., Graesser, A., Schuller, B., and Martin, J.-C., editors (2011). *Proceedings of the 4. International HUMAINE Association Conference on Affective Computing and Intelligent Interaction 2011, ACII 2011*, volume 6974/6975, Part I / Part II of *Lecture Notes on Computer Science (LNCS)*, Memphis, TN. HUMAINE Association, Springer

### Contributions to Books (55):

- 15) Schuller, D. and Schuller, B. (2022b). Ist Stimme das neue Blut? KI und Stimmbiomarker zu früheren Diagnose – für jedermann, überall und jederzeit. In Pfannstiel, M., editor, *Künstliche Intelligenz im Gesundheitswesen*, chapter 26, pages 565–579. Springer, Wiesbaden, Germany. invited contribution, awarded “Buchtipps Gesundheitswirtschaftskongress 2022”
- 16) Nessim, M. A. F., Coppock, H., Mohamed, M. M., and Schuller, B. W. (2022). Artificial Intelligence in COVID-19. In Barh, D. and de Carvalho Azevedo, V. A., editors, *Omics approaches and technologies in COVID-19*, chapter 16, pages 255–273. Elsevier, 1 edition. invited contribution
- 17) Zhao, S., Huang, Q., Tang, Y., Yao, X., Yang, J., Ding, G., and Schuller, B. W. (2022a). Computational Emotion Analysis From Images: Recent Advances and Future Directions. In Ionescu, B., Bainbridge, W., and Murray, N., editors, *Human Perception of Visual Information – Psychological and Computational*, pages 85–113. Springer
- 18) Milling, M., Pokorny, F. B., and und Björn W.Schuller, K. D. B.-P. (2021). Stimme, das neue Blut!? Künstliche Intelligenz auf dem Weg

- Erkrankungen zu “hören”. In Manzei-Gorsky, A., Schubert, C., and von Hayek, J., editors, *Technik und Gesundheit*, volume 4 of *Gesundheitsforschung. Interdisziplinäre Perspektiven (G.IP)*, pages 113–136. Nomos, 1 edition
- 19) Nessiem, M. A., Amin, M., Coppock, H., and Schuller, B. (2021a). Artificial Intelligence for Diagnosis and Monitoring of COVID-19. In Barh, D., editor, *COVID-19*. Elsevier. invited contribution
  - 20) Schuller, B. W. and McTear, M. F. (2021). Socio-cognitive Language Processing for Special User Groups. In Miehle, J., Minker, W., André, E., and Yoshino, K., editors, *Multimodal Agents for Ageing and Multicultural Societies*, Communications of NII Shonan Meetings, chapter 5, pages 87–95. Springer
  - 21) Pokorný, F. and Schuller, B. (2021). Sound Engineering. In Sammler, D., editor, *Oxford Handbook of Language and Music*, chapter 10. Oxford University Press. invited, to appear
  - 22) Karas, V. and Schuller, B. (2021a). Deep Learning for Sentiment Analysis: an Overview and Perspectives. In Pinarbasi, F. and Taskiran, M. N., editors, *Natural Language Processing for Global and Local Business*, chapter 5, pages 97–133. IGI Global
  - 23) Morency, L.-P., Sakti, S., Schuller, B. W., and Ultes, S. (2021). Multimodal Machine Learning for Social Interaction with Ageing Individuals. In Miehle, J., Minker, W., André, E., and Yoshino, K., editors, *Multimodal Agents for Ageing and Multicultural Societies*, Communications of NII Shonan Meetings, chapter 3, pages 51–70. Springer
  - 24) Amiriparian, S., Schmitt, M., Ottl, S., Gerczuk, M., and Schuller, B. (2020c). Deep Unsupervised Representation Learning for Audio-based Medical Applications. In Nanni, L., Brahnam, S., Brattin, R., Ghidoni, S., and Jain, L. C., editors, *Deep Learners and Deep Learner Descriptors for Medical Applications*, volume 186 of *Intelligent Systems Reference Library (ISRL)*, chapter 5, pages 137–164. Springer. invited contribution
  - 25) Cummins, N., Ren, Z., Mallol-Ragolta, A., and Schuller, B. (2020c). Machine learning in digital health, recent trends, and ongoing challenges. In Barh, D., editor, *Artificial Intelligence in Precision Health*, chapter 5, pages 121–148. Academic Press/Elsevier. invited contribution
  - 26) Cummins, N., Matcham, F., Klapper, J., and Schuller, B. (2020a). Artificial intelligence to aid the detection of mood disorders. In Barh, D., editor, *Artificial Intelligence in Precision Health*, chapter 10, pages 231–255. Academic Press/Elsevier. invited contribution
  - 27) Pateraki, M., Fysarakis, K., Sakkalis, V., Spanoudakis, G., Varlamis, I., Ioannidis, S., Maniadakis, M., Lourakis, M., Cummins, N., Schuller, B., Loutsetis, E., and Koutsouris, D. (2020). Biosensors and Internet of Things in smart healthcare applications: challenges and opportunities. In Dey, N., Ashour, A., Fong, S. J., and Bhatt, C., editors, *Wearable and Implantable Medical Devices*, volume 7 of *Applications in ubiquitous sensing applications for healthcare*, chapter 2, pages 25–53. Elsevier / Academic Press, 1 edition
  - 28) Schuller, D. and Schuller, B. (2020b). The Challenge of Automatic Eating Behaviour Analysis and Tracking. In Costin, H. N., Schuller, B. W., and Florea, A. M., editors, *Recent Advances in Intelligent Assistive Technologies: Paradigms and Applications*, Intelligent Systems Reference Library, pages 187–204. Springer
  - 29) Amiriparian, S., Schmitt, M., Hantke, S., Pandit, V., and Schuller, B. (2019f). Humans Inside: Cooperative Big Multimedia Data Mining. In Esposito, A., Esposito, A. M., and Jain, L. C., editors, *Innovations in Big Data Mining and Embedded Knowledge: Domestic and Social Context Challenges*, volume 159 of *Intelligent Systems Reference Library (ISRL)*, pages 235–257. Springer. invited contribution
  - 30) Pandit, V., Amiriparian, S., Schmitt, M., Qian, K., Guo, J., Matsuoka, S., and Schuller, B. (2019a). Big Data Multimedia Mining: Feature Extraction facing Volume, Velocity, and Variety. In Vrochidis, S., Huet, B., Chang, E. Y., and Kompatsiaris, I., editors, *Big Data Analytics for Large-Scale Multimedia Search*, chapter 3, pages 61–83. Wiley
  - 31) Tzirakis, P., Zafeiriou, S., and Schuller, B. (2019c). Real-world automatic continuous affect recognition from audiovisual signals. In Alameda-Pineda, X., Ricci, E., and Sebe, N., editors, *Multi-modal Behavior Analysis in the Wild: Advances and Challenges*, Computer Vision and Pattern Recognition, chapter 18, pages 387–406. Elsevier
  - 32) Cummins, N. and Schuller, B. (2019). Latest Advances in Computational Speech Analysis for Mobile Sensing. In Montag, C. and Baumeister, H., editors, *Digital Phenotyping and Mobile Sensing*, Studies in Neuroscience, Psychology and Behavioral Economics, pages 141–159. Springer, Berlin Heidelberg. invited contribution
  - 33) Schmitt, M. and Schuller, B. (2019a). Machine-based decoding of paralinguistic vocal features. In Frühholz, S. and Belin, P., editors, *The Oxford Handbook of Voice Perception*, chapter 43, pages 719–742. Oxford University Press
  - 34) Schuller, B. (2018c). Multimodal User State and Trait Recognition: An Overview. In Oviatt, S., Schuller, B., Cohen, P., Sonntag, D., Potamianos, G., and Krüger, A., editors, *The Handbook of Multimodal-Multisensor Interfaces Volume 2 – Signal Processing, Architectures, and Detection of Emotion and Cognition*, volume 21 of *ACM Books*, chapter 5, pages 131–165. ACM Books, Morgan & Claypool, 1 edition
  - 35) Bengio, S., Deng, L., Morency, L.-P., and Schuller, B. (2018). Multidisciplinary Challenge Topic: Perspectives on Predictive Power of Multimodal Deep Learning: Surprises and Future Directions. In Oviatt, S., Schuller, B., Cohen, P., Sonntag, D., Potami-

- anos, G., and Krüger, A., editors, *The Handbook of Multimodal-Multisensor Interfaces Volume 2 – Signal Processing, Architectures, and Detection of Emotion and Cognition*, volume 21, chapter 14, pages 457–472. ACM Books, Morgan & Claypool, 1 edition
- 36) Keren, G., Mousa, A. E.-D., Pietquin, O., Zafeiriou, S., and Schuller, B. (2018e). Deep Learning for Multisensorial and Multimodal Interaction. In Oviatt, S., Schuller, B., Cohen, P., Sonntag, D., Potamianos, G., and Krüger, A., editors, *The Handbook of Multimodal-Multisensor Interfaces Volume 2 – Signal Processing, Architectures, and Detection of Emotion and Cognition*, volume 21, chapter 4, pages 99–128. ACM Books, Morgan & Claypool
- 37) Marchi, E., Zhang, Y., Eyben, F., Ringeval, F., and Schuller, B. (2018). Autism and Speech, Language, and Emotion – a Survey. In Patil, H., Neustein, A., and Kulshreshtha, M., editors, *Signal and Acoustic Modeling for Speech and Communication Disorders*, volume 5 of *Speech Technology and Text Mining in Medicine and Healthcare*, chapter 6, pages 139–160. De Gruyter, Berlin. invited contribution
- 38) Schuller, B., Elkins, A., and Scherer, K. (2017a). Computational Analysis of Vocal Expression of Affect: Trends and Challenges. In Burgoon, J., Magnenat-Thalmann, N., Pantic, M., and Vinciarelli, A., editors, *Social Signal Processing*, chapter 6, pages 56–68. Cambridge University Press
- 39) Gunes, H. and Schuller, B. (2017a). Automatic Analysis of Aesthetics: Human Beauty, Attractiveness, and Likability. In Burgoon, J., Magnenat-Thalmann, N., Pantic, M., and Vinciarelli, A., editors, *Social Signal Processing*, chapter 14, pages 183–201. Cambridge University Press
- 40) Gunes, H. and Schuller, B. (2017b). Automatic Analysis of Social Emotions. In Burgoon, J., Magnenat-Thalmann, N., Pantic, M., and Vinciarelli, A., editors, *Social Signal Processing*, chapter 16, pages 213–224. Cambridge University Press
- 41) Schuller, B. (2016b). Acquisition of affect. In Tkalcic, M., De Carolis, B., de Gemmis, M., Odić, A., and Kosir, A., editors, *Emotions and Personality in Personalized Services*, Human-Computer Interaction Series, pages 57–80. Springer, 1 edition
- 42) Burkhardt, F., Pelachaud, C., Schuller, B., and Zovato, E. (2017a). EmotionML. In Dahl, D., editor, *Multimodal Interaction with W3C Standards: Towards Natural User Interfaces to Everything*, pages 65–80. Springer, Berlin/Heidelberg
- 43) Schuller, B. (2015b). Deep Learning our Everyday Emotions – A Short Overview. In Bassis, S., Esposito, A., and Morabito, F. C., editors, *Advances in Neural Networks: Computational and Theoretical Issues Emotional Expressions and Daily Cognitive Functions*, volume 37 of *Smart Innovation Systems and Technologies*, pages 339–346. Springer, Berlin Heidelberg. invited contribution
- 44) Schuller, B. and Weninger, F. (2015). Human Affect Recognition – Audio-Based Methods. In Webster, J. G., editor, *Wiley Encyclopedia of Electrical and Electronics Engineering*, pages 1–13. John Wiley & Sons, New York. invited contribution
- 45) Schuller, B. (2015g). Multimodal Affect Databases –? Collection, Challenges & Chances. In Calvo, R. A., D’Mello, S., Gratch, J., and Kappas, A., editors, *Handbook of Affective Computing*, Oxford Library of Psychology, chapter 23, pages 323–333. Oxford University Press. invited contribution
- 46) Schuller, B. (2015d). Emotion Modeling via Speech Content and Prosody – in Computer Games and Elsewhere. In Yannakakis, G. and Karpouzis, K., editors, *Emotion in Games – Theory and Practice*, volume 4 of *Socio-Affective Computing*, chapter 5, pages 85–102. Springer. invited contribution
- 47) Brückner, R. and Schuller, B. (2015). Being at Odds? – Deep and Hierarchical Neural Networks for Classification and Regression of Conflict in Speech. In D’Errico, F., Poggi, I., Vinciarelli, A., and Vincze, L., editors, *Conflict and Multimodal Communication – Social research and machine intelligence*, Computational Social Sciences, pages 403–429. Springer, Berlin/Heidelberg. invited contribution
- 48) Castellano, G., Gunes, H., Peters, C., and Schuller, B. (2015). Multimodal Affect Detection for Naturalistic Human-Computer and Human-Robot Interactions. In Calvo, R. A., D’Mello, S., Gratch, J., and Kappas, A., editors, *Handbook of Affective Computing*, Oxford Library of Psychology, chapter 17, pages 246–260. Oxford University Press. invited contribution
- 49) Weninger, F., Wöllmer, M., and Schuller, B. (2015c). Emotion Recognition in Naturalistic Speech and Language – A Survey. In Konar, A. and Chakraborty, A., editors, *Emotion Recognition: A Pattern Analysis Approach*, chapter 10, pages 237–267. Wiley, 1 edition
- 50) Marchi, E., Ringeval, F., and Schuller, B. (2014c). Voice-enabled assistive robots for handling autism spectrum conditions: an examination of the role of prosody. In Neustein, A., editor, *Speech and Automata in Health Care (Speech Technology and Text Mining in Medicine and Healthcare)*, pages 207–236. De Gruyter, Boston/Berlin/Munich. invited contribution
- 51) Schuller, B. (2013d). Prosody and Phonemes: On the Influence of Speaking Style. In Hancil, S. and Hirst, D., editors, *Prosody and Iconicity*, chapter 13, pages 233–250. Benjamins
- 52) Schuller, B. and Weninger, F. (2012). Ten Recent Trends in Computational Paralinguistics. In Esposito, A., Vinciarelli, A., Hoffmann, R., and Müller, V. C., editors, *4. COST 2102 International Training School on Cognitive Behavioural Systems*, volume 7403/2012 of *Lecture Notes on Computer Science (LNCS) 7403*, pages 35–49. Springer, Berlin Heidelberg
- 53) Rotili, R., Principi, E., Wöllmer, M., Squartini, S., and Schuller, B. (2012c). Conversational Speech Recognition In Non-Stationary Reverberated Environments. In Esposito, A., Vinciarelli, A., Hoffmann,

- R., and Müller, V. C., editors, *4. COST 2102 International Training School on Cognitive Behavioural Systems*, volume 7403/2012 of *Lecture Notes on Computer Science (LNCS)*, pages 50–59. Springer, Berlin Heidelberg
- 54) Rotili, R., Principi, E., Squartini, S., and Schuller, B. (2012b). Real-Time Speech Recognition in a Multi-Talker Reverberated Acoustic Scenario. In *Advanced Intelligent Computing Theories and Applications. With Aspects of Artificial Intelligence. Proc. Seventh International Conference on Intelligent Computing (ICIC 2011)*, volume 6839 of *Lecture Notes on Computer Science (LNCS)*, pages 379–386. Springer
- 55) Schuller, B. (2011c). Voice and Speech Analysis in Search of States and Traits. In Salah, A. A. and Gevers, T., editors, *Computer Analysis of Human Behavior*, *Advances in Pattern Recognition*, chapter 9, pages 227–253. Springer
- 56) Schuller, B. and Knaup, T. (2011). Learning and Knowledge-based Sentiment Analysis in Movie Review Key Excerpts. In Esposito, A., Esposito, A. M., Martone, R., Müller, V., and Scarpetta, G., editors, *Toward Autonomous, Adaptive, and Context-Aware Multimodal Interfaces: Theoretical and Practical Issues: Third COST 2102 International Training School, Caserta, Italy, March 15-19, 2010, Revised Selected Papers*, volume 6456/2010 of *Lecture Notes on Computer Science (LNCS)*, pages 448–472. Springer, Heidelberg, 1 edition
- 57) Schuller, B., Wöllmer, M., Eyben, F., and Rigoll, G. (2011g). Retrieval of Paralinguistic Information in Broadcasts. In Maybury, M. T., editor, *Multimedia Information Extraction: Advances in video, audio, and imagery extraction for search, data mining, surveillance, and authoring*, chapter 17, pages 273–288. Wiley, IEEE Computer Society Press
- 58) Arsić, D. and Schuller, B. (2011). Real Time Person Tracking and Behavior Interpretation in Multi Camera Scenarios Applying Homography and Coupled HMMs. In Esposito, A., Vinciarelli, A., Vicsi, K., Pelachaud, C., and Nijholt, A., editors, *Analysis of Verbal and Nonverbal Communication and Enactment: The Processing Issues, COST 2102 International Conference, Budapest, Hungary, September 7-10, 2010, Revised Selected Papers*, volume 6800/2011 of *Lecture Notes on Computer Science (LNCS)*, pages 1–18. Springer, Heidelberg
- 59) Schuller, B., Dibiasi, F., Eyben, F., and Rigoll, G. (2010a). Music Thumbnailing Incorporating Harmony- and Rhythm Structure. In Detyniecki, M., Leiner, U., and Nürnberger, A., editors, *Adaptive Multimedia Retrieval: 6. International Workshop, AMR 2008, Berlin, Germany, June 26-27, 2008. Revised Selected Papers*, volume 5811/2010 of *Lecture Notes in Computer Science (LNCS)*, pages 78–88. Springer, Berlin/Heidelberg
- 60) Batliner, A., Schuller, B., Seppi, D., Steidl, S., Devillers, L., Vidrascu, L., Vogt, T., Aharonson, V., and Amir, N. (2010a). The Automatic Recognition of Emotions in Speech. In Cowie, R., Petta, P., and Pelachaud, C., editors, *Emotion-Oriented Systems: The HUMAINE Handbook*, *Cognitive Technologies*, pages 71–99. Springer, 1 edition
- 61) Wöllmer, M., Eyben, F., Graves, A., Schuller, B., and Rigoll, G. (2010b). Improving Keyword Spotting with a Tandem BLSTM-DBN Architecture. In Sole-Casals, J. and Zaiats, V., editors, *Advances in Non-Linear Speech Processing: International Conference on Nonlinear Speech Processing, NOLISP 2009, Vic, Spain, June 25-27, 2009, Revised Selected Papers*, volume 5933/2010 of *Lecture Notes on Computer Science (LNCS)*, pages 68–75. Springer
- 62) Schuller, B., Wöllmer, M., Eyben, F., and Rigoll, G. (2009k). Spectral or Voice Quality? Feature Type Relevance for the Discrimination of Emotion Pairs. In Hancil, S., editor, *The Role of Prosody in Affective Speech*, volume 97 of *Linguistic Insights, Studies in Language and Communication*, pages 285–307. Peter Lang Publishing Group
- 63) Schuller, B., Eyben, F., and Rigoll, G. (2008e). Static and Dynamic Modelling for the Recognition of Non-Verbal Vocalisations in Conversational Speech. In André, E., Dybkjaer, L., Neumann, H., Pieraccini, R., and Weber, M., editors, *Perception in Multimodal Dialogue Systems: 4. IEEE Tutorial and Research Workshop on Perception and Interactive Technologies for Speech-Based Systems, PIT 2008, Kloster Irsee, Germany, June 16-18, 2008, Proceedings*, volume 5078/2008 of *Lecture Notes on Computer Science (LNCS)*, pages 99–110. Springer, Berlin/Heidelberg
- 64) Schuller, B., Wöllmer, M., Moosmayr, T., Ruske, G., and Rigoll, G. (2008m). Switching Linear Dynamic Models for Noise Robust In-Car Speech Recognition. In Rigoll, G., editor, *Pattern Recognition: 30. DAGM Symposium Munich, Germany, June 10-13, 2008 Proceedings*, volume 5096 of *Lecture Notes on Computer Science (LNCS)*, pages 244–253. Springer, Berlin/Heidelberg. (acceptance rate: 39%)
- 65) Vlasenko, B., Schuller, B., Wendemuth, A., and Rigoll, G. (2008b). On the Influence of Phonetic Content Variation for Acoustic Emotion Recognition. In André, E., Dybkjaer, L., Neumann, H., Pieraccini, R., and Weber, M., editors, *Perception in Multimodal Dialogue Systems: 4. IEEE Tutorial and Research Workshop on Perception and Interactive Technologies for Speech-Based Systems, PIT 2008, Kloster Irsee, Germany, June 16-18, 2008, Proceedings*, volume 5078/2008 of *Lecture Notes on Computer Science (LNCS)*, pages 217–220. Springer, Berlin/Heidelberg
- 66) Grimm, M., Kroschel, K., Harris, H., Nass, C., Schuller, B., Rigoll, G., and Moosmayr, T. (2007a). On the Necessity and Feasibility of Detecting a Driver’s Emotional State While Driving. In Paiva, A., Picard, R. W., and Prada, R., editors, *Affective Computing and Intelligent Interaction: Second International Conference, ACHI 2007, Lisbon, Por-*

- tugal, September 12-14, 2007, *Proceedings*, volume 4738/2007 of *Lecture Notes on Computer Science (LNCS)*, pages 126–138. Springer, Berlin/Heidelberg
- 67) Vlasenko, B., Schuller, B., Wendemuth, A., and Rigoll, G. (2007b). Frame vs. Turn-Level: Emotion Recognition from Speech Considering Static and Dynamic Processing. In Paiva, A., Picard, R. W., and Prada, R., editors, *Affective Computing and Intelligent Interaction: Second International Conference, ACII 2007, Lisbon, Portugal, September 12-14, 2007, Proceedings*, volume 4738/2007 of *Lecture Notes on Computer Science (LNCS)*, pages 139–147. Springer, Berlin/Heidelberg
- 68) Schröder, M., Devillers, L., Karpouzis, K., Martin, J.-C., Pelachaud, C., Peter, C., Pirker, H., Schuller, B., Tao, J., and Wilson, I. (2007). What should a generic emotion markup language be able to represent? In Paiva, A., Picard, R. W., and Prada, R., editors, *Affective Computing and Intelligent Interaction: Second International Conference, ACII 2007, Lisbon, Portugal, September 12-14, 2007, Proceedings*, volume 4738/2007 of *Lecture Notes on Computer Science (LNCS)*, pages 440–451. Springer, Berlin/Heidelberg
- 69) Schuller, B., Ablamey, M., Müller, R., Reifinger, S., Poitschke, T., and Rigoll, G. (2006a). Speech Communication and Multimodal Interfaces. In Kraiss, K.-F., editor, *Advanced Man Machine Interaction, Signals and Communication Technology*, chapter 4, pages 141–190. Springer, Berlin/Heidelberg
- B) REFEREED JOURNAL PAPERS (252)
- 70) Coppock, H., Akman, A., Bergler, C., Gerczuk, M., Brown, C., Chauhan, J., Grammenos, A., Hasthanasombat, A., Spathis, D., Xia, T., Cicuta, P., Han, J., Amiriparian, S., Baird, A., Stappen, L., Ottl, S., Tzirakis, P., Batliner, A., Mascolo, C., and Schuller, B. W. (2023). A Summary of the ComParE COVID-19 Challenges. *Frontiers in Digital Health, section Health Informatics*, 5. 18 pages, to appear
- 71) Akman, A., Coppock, H., Gaskell, A., Tzirakis, P., Jones, L., and Schuller, B. W. (2022a). Evaluating the COVID-19 Identification ResNet (CIdER) on the INTERSPEECH COVID-19 from Audio Challenges. *Frontiers in Digital Health, section Health Informatics*, 4(789980):1–6
- 72) Amiriparian, S., Hübner, T., Karas, V., Gerczuk, M., Ottl, S., and Schuller, B. W. (2022d). DeepSpectrum-Lite: A Power-Efficient Transfer Learning Framework for Embedded Speech and Audio Processing from Decentralised Data. *Frontiers in Artificial Intelligence, section Language and Computation*, 5(856232):1–10
- 73) Aspandi, D., Sukno, F., Schuller, B., and Binefa, X. (2022). Audio-Visual Gated-Sequenced Neural Networks for Affect Recognition. *IEEE Transactions on Affective Computing*, 13. 14 pages, to appear (IF: 13.99 (2021))
- 74) Bartl-Pokorny, K. D., Pokorny, F. B., Garrido, D., Schuller, B. W., Zhang, D., and Marschik, P. B. (2022). Vocalisation Repertoire at the End of the First Year of Life: An Exploratory Comparison of Rett Syndrome and Typical Development. *Journal of Developmental and Physical Disabilities*, 34:1053–1069. (IF: 1.710 (2020))
- 75) Batliner, A., Hantke, S., and Schuller, B. (2022a). Ethics and Good Practice in Computational Paralinguistics. *IEEE Transactions on Affective Computing*, 13(3):1236–1253. (IF: 13.99 (2021))
- 76) Batliner, A., Neumann, M., Burkhardt, F., Baird, A., Meyer, S., Vu, N. T., and Schuller, B. (2022b). Ethical Awareness in Paralinguistics: A Taxonomy of Applications. *International Journal of Human-Computer Interaction*, pages 1–18. to appear (IF: 4.920 (2021))
- 77) Chang, Y., Jing, X., Ren, Z., and Schuller, B. W. (2022a). CovNet: A Transfer Learning Framework for Automatic COVID-19 Detection from Crowd-sourced Cough Sounds. *Frontiers in Digital Health, section Health Informatics*, 3(Article 799067):1–11
- 78) Deshpande, G., Batliner, A., and Schuller, B. (2022). AI-based Human Audio Processing for COVID-19: A Comprehensive Overview. *Pattern Recognition, Special Issue on AI for Combating COVID-2019*, 122:108289. 10 pages (IF: 8.518 (2021))
- 79) Hecker, P., Steckhan, N., Eyben, F., Schuller, B. W., and Arnrich, B. (2022b). Voice Analysis for Neurological Disorder Recognition – a Systematic Review and Perspective on Emerging Trends. *Frontiers in Digital Health, section Health Technology Innovation*, 4(Article ID 842301):1–16
- 80) Kathan, A., Harrer, M., Küster, L., Triantafyllopoulos, A., He, X., Milling, M., Gerczuk, M., Yan, T., Rajamani, S. T., Heber, E., Grossmann, I., Ebert, D. D., and Schuller, B. W. (2022c). Personalised depression forecasting using mobile sensor data and ecological momentary assessment. *Frontiers in Digital Health, section Personalized Medicine*, 3:1–15. to appear
- 81) Lai, W.-H., Chou, T.-Y., Chou, M.-C., and Schuller, B. W. (2022). Robust Audio Watermarking Based on Empirical Mode Decomposition and Group Differential Relations. *Journal of the Audio Engineering Society*. 38 pages, to appear (IF: 0.833 (2021))
- 82) Latif, S., Rana, R., Khalifa, S., Jurdak, R., and Schuller, B. W. (2022e). Multitask Learning from Augmented Auxiliary Data for Improving Speech Emotion Recognition. *IEEE Transactions on Affective Computing*. 12 pages, to appear (IF: 13.99 (2021))
- 83) Latif, S., Rana, R., Khalifa, S., Jurdak, R., Epps, J., and Schuller, B. W. (2022b). Multi-Task Semi-Supervised Adversarial Autoencoding for Speech Emotion Recognition. *IEEE Transactions on Affective Computing*, 13(2):992–1004. (IF: 13.99 (2021))
- 84) Latif, S., Rana, R., Khalifa, S., Jurdak, R., and Schuller, B. (2022c). Self Supervised Adversarial Domain Adaptation for Cross-Corpus and Cross-Language Speech Emotion Recognition. *IEEE Trans-*

- actions on *Affective Computing*, 13. 14 pages, to appear (IF: 13.99 (2021))
- 85) Lefter, I., Baird, A., Stappen, L., and Schuller, B. W. (2022). A Cross-Corpus Speech-based Analysis of Escalating Negative Interactions. *Frontiers in Computer Science, section Human-Media Interaction*, 4(749804):1–13
- 86) Liu, S., Mallol-Ragolta, A., Parada-Cabeleiro, E., Qian, K., Jing, X., Kathan, A., Hu, B., and Schuller, B. W. (2022d). Audio Self-supervised Learning: A Survey. *Patterns*, 3(12):1–28
- 87) Liu, S., Mallol-Ragolta, A., Yan, T., Qian, K., Parada-Cabaleiro, E., Hu, B., and Schuller, B. W. (2022f). Capturing Time Dynamics from Speech using Neural Networks for Surgical Masks Detection. *IEEE Journal of Biomedical and Health Informatics*, 26(8):4291–4302. (IF: 5.772 (2021))
- 88) Liu, S., Han, J., Laporta Puyal, E., Kontaxis, S., Sun, S., Locatelli, P., Dineley, J., Pokorny, F. B., Costa, G. D., Leocani, L., Guerrero, A. I., Nos, C., Zabalza, A., Sørensen, P. S., Buron, M., Magyari, M., Ranjan, Y., Rashid, Z., Conde, P., Stewart, C., Folarin, A. A., Dobson, R., Bailón, R., Vairavan, S., Cummins, N., Narayan, V. A., Hotopf, M., Comi, G., Schuller, B. W., and RADAR-CNS Consortium (2022c). Fitbeat: COVID-19 Estimation based on Wristband Heart Rate. *Pattern Recognition, Special Issue on AI for Combating COVID-2019*, 123:108403. 10 pages (IF: 8.518 (2021))
- 89) Löchner, J. and Schuller, B. (2022). Child & Youth Affective Computing – Challenge Accepted. *IEEE Intelligent Systems Magazine*, 37. 10 pages, to appear (IF: 6.744 (2021))
- 90) Lu, C., Zong, Y., Zheng, W., Li, Y., Tang, C., and Schuller, B. W. (2022). Domain Invariant Feature Learning for Speaker-independent Speech Emotion Recognition. *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 30:2217–2230. (IF: 3.919 (2020))
- 91) Mallol-Ragolta, A., Semertzidou, A., Pateraki, M., and Schuller, B. (2022e). Outer Product-based Fusion of Smartwatch Sensor Data for Human Activity Recognition. *Frontiers in Computer Science, section Mobile and Ubiquitous Computing*, 4(Article ID 796866):1–10
- 92) Milling, M., Baird, A., Bartl-Pokorny, K. D., Liu, S., Alcorn, A. M., Shen, J., Tavassoli, T., Ainger, E., Pellicano, E., Pantic, M., Cummins, N., and Schuller, B. W. (2022b). Evaluating the Impact of Voice Activity Detection on Speech Emotion Recognition for Autistic Children. *Frontiers in Computer Science, section Human-Media Interaction*, 4(837269):1–9
- 93) Milling, M., Pokorny, F. B., Bartl-Pokorny, K. D., and Schuller, B. W. (2022d). Is speech the new blood? Recent progress in AI-based disease detection from audio in a nutshell. *Frontiers in Digital Health, section Health Informatics*, 3(Article 886615):1–7
- 94) Mira, R., Vougioukas, K., Ma, P., Petridis, S., Schuller, B. W., and Pantic, M. (2022b). End-to-End Video-To-Speech Synthesis using Generative Adversarial Networks. *IEEE Transactions on Cybernetics*, 52. 12 pages, to appear (IF: 11.079 (2019))
- 95) Mohamed, M. M., Nessim, M. A., Batliner, A., Bergler, C., Hantke, S., Schmitt, M., Baird, A., Mallol-Ragolta, A., Karas, V., Amiriparian, S., and Schuller, B. W. (2022). Face Mask Recognition from Audio: The MASC Database and an Overview on the Mask Challenge. *Pattern Recognition, Special Issue on AI for Combating COVID-2019*, 122:108361. 11 pages (IF: 8.518 (2021))
- 96) Niu, M., Zhao, Z., Tao, J., Li, Y., and Schuller, B. (2022a). Dual Attention and Element Recalibration Networks for Automatic Depression Level Prediction. *IEEE Transactions on Affective Computing*, 13. 12 pages, to appear (IF: 13.99 (2021))
- 97) Niu, M., Zhao, Z., Tao, J., Li, Y., and Schuller, B. W. (2022b). Selective Element and Two Orders Vectorization Networks for Automatic Depression Severity Diagnosis via Facial Changes. *IEEE Transactions on Circuits and Systems for Video Technology*, 32(11):8065–8077. (IF: 4.685 (2021))
- 98) Ottl, S., Amiriparian, S., Gerczuka, M., and Schuller, B. W. (2022). motilitAI: A Machine Learning Framework for Automatic Prediction of Human Semen Motility. *iScience*, 25(Article ID 104644). 17 pages (IF: 6.107 (2021))
- 99) Pokorny, F. B., Schmitt, M., Egger, M., Bartl-Pokorny, K. D., Zhang, D., Schuller, B. W., and Marschik, P. B. (2022). Automatic vocalisation-based detection of fragile X syndrome and Rett syndrome. *Scientific Reports*, 12(13345). 13 pages (IF: 4.996 (2021))
- 100) Qian, K., Koike, T., Nakamura, T., Schuller, B. W., and Yamamoto, Y. (2022b). Learning Multimodal Representations for Drowsiness Detection. *IEEE Transactions on Intelligent Transportation Systems*, 23(8):11539–11548. (IF: 9.551 (2021))
- 101) Qian, K., Hu, B., Yamamoto, Y., and Schuller, B. W. (2022a). The Voice of the Body: Why AI Should Listen to it and an Archive. *Cyborg and Bionic Systems*, 2022:1–4. to appear
- 102) Ren, Z., Qian, K., Dong, F., Dai, Z., Nejd, W., Yamamoto, Y., and Schuller, B. W. (2022e). Deep Attention-based Neural Networks for Explainable Heart Sound Classification. *Machine Learning with Applications*, 9(100322):1–9
- 103) Ren, Z., Chang, Y., Nejd, W., and Schuller, B. W. (2022c). Learning Complementary Representations via Attention-based Ensemble Learning for Cough-based COVID-19 Recognition. *Acta Acustica*, 6(29):1–5. (IF: 0.96 (2021))
- 104) Ren, Z., Chang, Y., Bartl-Pokorny, K. D., Pokorny, F. B., and Schuller, B. W. (2022a). The Acoustic Dissection of Cough: Diving into Machine Listening-based COVID-19 Analysis and Detection. *Journal of Voice*. 14 pages, to appear (IF: 2.3 (2021))

- 105) Stappen, L., Baird, A., Lienhart, M., Bätz, A., and Schuller, B. W. (2022a). An Estimation of Online Video User Engagement from Features of Time- and Value-continuous, Dimensional Emotions. *Frontiers in Computer Science, section Human-Media Interaction*, 4(773154):1–15
- 106) Turian, J., Shier, J., Khan, H. R., Raj, B., Schuller, B. W., Steinmetz, C. J., Malloy, C., Tzanetakis, G., Velarde, G., McNally, K., Henry, M., Pinto, N., Noufi, C., Clough, C., Herremans, D., Fonseca, E., Engel, J., Salamon, J., Esling, P., Manocha, P., Watanabe, S., Jin, Z., and Bisk, Y. (2022a). HEAR 2021: Holistic Evaluation of Audio Representations. *Proceedings of Machine Learning Research, NeurIPS 2021 Competition and Demonstration Track*, 176:125–145
- 107) Xie, J., Zhong, Y., Xiao, T., Wang, Z., Wang, T., and Schuller, B. W. (2022). A multi-information fusion model for short term load forecasting of an architectural complex considering spatio-temporal characteristics. *Energy and Buildings*, 277(5):112566. 11 pages (IF: 7.201 (2021))
- 108) Xu, X., Deng, J., Cummins, N., Zhang, Z., Zhao, L., and Schuller, B. (2022a). Exploring Zero-Shot Emotion Recognition in Speech Using Semantic-Embedding Prototypes. *IEEE Transactions on Multimedia*, 24:2752–2765. (IF: 6.513 (2020))
- 109) Xu, X., Deng, J., Zhang, Z., Fan, X., Zhao, L., Devillers, L., and Schuller, B. W. (2022b). Rethinking Auditory Affective Descriptors Through Zero-Shot Emotion Recognition in Speech. *IEEE Transactions on Computational Social Systems*, 9(5):1530–1541. (IF: 5.357 (2020))
- 110) Zhang, Y., Weninger, F., Schuller, B., and Picard, R. W. (2022b). Holistic Affect Recognition Using PaNDA: Paralinguistic Non-metric Dimensional Analysis. *IEEE Transactions on Affective Computing*, 13(2):769–780. (IF: 13.99 (2021))
- 111) Zhang, L., Li, J., Li, P., Lu, X., Gong, M., Shen, P., Zhu, G., Shah, S. A., Bennarmoun, M., Qian, K., and Schuller, B. W. (2022a). MEDAS: An open-source platform as service to help break the walls between medicine and informatics. *Neural Computing and Applications*, 34:6547–6567. (IF: 5.606 (2021))
- 112) Zhao, S., Yao, X., Jia, G., Yang, J., Ding, G., Chua, T.-S., Schuller, B. W., and Keutzer, K. (2022b). Affective Image Content Analysis: Two Decades Review and New Perspectives. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 44(10):6729–6751. (IF: 16.389 (2021))
- 113) Zhou, K., Sisman, B., Rana, R., Schuller, B. W., and Li, H. (2022a). Emotion Intensity and its Control for Emotional Voice Conversion. *IEEE Transactions on Affective Computing*, 13. 18 pages, to appear (IF: 13.99 (2021))
- 114) Zhou, K., Sisman, B., Rana, R., Schuller, B. W., and Li, H. (2022c). Speech Synthesis with Mixed Emotions. *IEEE Transactions on Affective Computing*. 16 pages, to appear (IF: 13.99 (2021))
- 115) Schuller, B. W., Schuller, D. M., Qian, K., Liu, J., Zheng, H., and Li, X. (2021g). COVID-19 and Computer Audition: An Overview on What Speech & Sound Analysis Could Contribute in the SARS-CoV-2 Corona Crisis. *Frontiers in Digital Health, Health Technology Innovation*, 3(Article 564906):1–16
- 116) Schuller, B., Baird, A., Gebhard, A., Amiriparian, S., Keren, G., Schmitt, M., and Cummins, N. (2021a). New Avenues in Audio Intelligence: Towards Holistic Real-life Audio Understanding. *Trends in Hearing*, 25:1–14. (IF: 3.293 (2021))
- 117) Baird, A., Triantafyllopoulos, A., Zänkert, S., Ottl, S., Christ, L., Stappen, L., Konzok, J., Sturmbauer, S., Messner, E.-M., Kudielka, B. M., Rohleder, N., Baumeister, H., and Schuller, B. W. (2021e). An Evaluation of Speech-Based Recognition of Emotional and Physiological Markers of Stress. *Frontiers in Computer Science, section Human-Media Interaction*, 3(Article ID 750284). 19 pages
- 118) Bartl-Pokorny, K. D., Pykala, M., Uluer, P., Barkana, D. E., Baird, A., Kose, H., Zorcec, T., Robins, B., Schuller, B. W., and Landowska, A. (2021b). Robot-Based Intervention for Children with Autism Spectrum Disorder: A Systematic Literature Review. *IEEE Access*, 9:165433–165450. (IF: 3.367 (2020))
- 119) Bartl-Pokorny, K. D., Pokorny, F. B., Batliner, A., Amiriparian, S., Semertzidou, A., Eyben, F., Kramer, E., Schmidt, F., Schönweiler, R., Wehler, M., and Schuller, B. W. (2021a). The voice of COVID-19: Acoustic correlates of infection in sustained vowels. *Journal of the Acoustical Society of America, Special Issue on COVID-19 Pandemic Acoustic Effects*, 149(6):4377–4383. (IF: 1.840 (2020))
- 120) Chanda, S., Fitwe, K., Deshpande, G., Schuller, B. W., and Patel, S. (2021). A Deep Audiovisual Approach for Human Confidence Classification. *Frontiers in Computer Science, section Human-Media Interaction*, 3(Article ID 674533). 12 pages
- 121) Cheng, J., Liang, R., Liang, Z., Zhao, L., Huang, C., and Schuller, B. (2021). A Deep Adaptation Network for Speech Enhancement: Combining a Relativistic Discriminator with Multi-Kernel Maximum Mean Discrepancy. *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 29:41–53. (IF: 3.919 (2020))
- 122) Coppock, H., Jones, L., Kiskin, I., and Schuller, B. (2021c). Bias and privacy in AI’s cough-based COVID-19 recognition. *The Lancet Digital Health*, (12):e761. (IF: 36.615 (2020))
- 123) Coppock, H., Jones, L., Kiskin, I., and Schuller, B. (2021d). COVID-19 Detection from Audio: Seven Grains of Salt. *The Lancet Digital Health*, 3(9):e537–e538. (IF: 36.615 (2020))
- 124) Coppock, H., Gaskell, A., Tzirakis, P., Baird, A., Jones, L., and Schuller, B. W. (2021a). End-2-End COVID-19 Detection from Breath & Cough Audio. *BMJ Innovations*, 7:356–362
- 125) Friedl, K., Rizos, G., Stappen, L., Hasan, M., Specia,

- L., Hain, T., and Schuller, B. (2021). Uncertainty Aware Review Hallucination for Science Article Classification. *Findings of the Association for Computational Linguistics (Findings)*, ACL-IJCNLP:5004–5009
- 126) Gerczuk, M., Amiriparian, S., Ottl, S., and Schuller, B. (2022b). EmoNet: A Transfer Learning Framework for Multi-Corpus Speech Emotion Recognition. *IEEE Transactions on Affective Computing*, 13. 18 pages, to appear (IF: 13.99 (2021))
- 127) Han, J., Zhang, Z., Mascolo, C., André, E., Tao, J., Zhao, Z., and Schuller, B. W. (2021a). Deep Mental Health Analysis on Mobile Devices: Challenges and Recent Advances. *IEEE Signal Processing Magazine*, 38(6):96–105. (IF: 12.551 (2020))
- 128) Han, J., Zhang, Z., Ren, Z., and Schuller, B. (2021d). Exploring Perception Uncertainty for Emotion Recognition in Dyadic Conversation and Music Listening. *Cognitive Computation, Special Issue on Affect Recognition in Multimodal Language*, 13:231–240. (IF: 5.418 (2020))
- 129) Han, J., Zhang, Z., Ren, Z., and Schuller, B. (2021c). EmoBed: Strengthening Monomodal Emotion Recognition via Training with Crossmodal Emotion Embeddings. *IEEE Transactions on Affective Computing*, 12(3):553–564. 12 pages (IF: 13.99 (2021))
- 130) Han, J., Zhang, Z., Pantic, M., and Schuller, B. (2021b). Internet of Emotional People: Towards Continual Affective Computing cross Cultures via Audio-visual Signals. *Future Generation Computer Systems, Special Issue on Internet of People: Human-driven Artificial Intelligence and Internet for Smarter Hyper-Connected Societies*, 114(1):294–306. (IF: 7.187 (2021))
- 131) Haque, K. N., Rana, R., Liu, J., Hansen, J. H. L., Cummins, N., Busso, C., and Schuller, B. W. (2021). Guided Generative Adversarial Neural Network for Representation Learning and Audio Generation using Fewer Labelled Audio Data. *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 29:2575–2590. (IF: 3.919 (2020))
- 132) Kossaifi, J., Walecki, R., Panagakis, Y., Shen, J., Schmitt, M., Ringeval, F., Han, J., Pandit, V., Schuller, B., Star, K., Hajiyeve, E., and Pantic, M. (2021). SEWA DB: A Rich Database for Audio-Visual Emotion and Sentiment Research in the Wild. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 43(3):1022–1040. (IF: 16.389 (2021))
- 133) Latif, S., Rana, R., Khalifa, S., Jurdak, R., Qadir, J., and Schuller, B. (2021a). Survey of Deep Representation Learning for Speech Emotion Recognition. *IEEE Transactions on Affective Computing*, 12. 20 pages, to appear (IF: 13.99 (2021))
- 134) Liu, S., Keren, G., Parada-Cabaleiro, E., and Schuller, B. W. (2021b). N-HANS: A neural network-based toolkit for in-the-wild audio enhancement. *Multimedia Tools and Applications*, pages 1–25. (IF: 2.757 (2020))
- 135) Narendra, N. P., Schuller, B., and Alku, P. (2021). The detection of Parkinson’s disease from speech using voice source information. *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 29:1925–1936. (IF: 3.919 (2020))
- 136) Özbay, A. G., Hamzehloo, A., Laizet, S., Tzirakis, P., Rizos, G., and Schuller, B. (2021). Poisson CNN: Convolutional neural networks for the solution of the Poisson equation on a Cartesian mesh. *Data Centric-Engineering*, 2(E6). 31 pages
- 137) Parada-Cabaleiro, E., Batliner, A., and Schuller, B. (2021a). The effect of music in anxiety reduction: A psychological and physiological assessment. *Psychology of Music*, 49(6):1637–1653. (IF: 1.712 (2019))
- 138) Qian, K., Zhang, Z., Yamamoto, Y., and Schuller, B. W. (2021f). Artificial Intelligence Internet of Things for the Elderly – From Assisted Living to Healthcare Monitoring. *IEEE Signal Processing Magazine, Special Section on Signal Processing for Neurorehabilitation and Assistive Technologies*, 38(4):78–88. (IF: 12.551 (2020))
- 139) Qian, K., Schmitt, M., Zheng, H., Koike, T., Han, J., Liu, J., Ji, W., Duan, J., Song, M., Yang, Z., Ren, Z., Liu, S., Zhang, Z., Yamamoto, Y., and Schuller, B. (2021d). Computer Audition for Fighting the SARS-CoV-2 Corona Crisis – Introducing the Multi-task Speech Corpus for COVID-19. *IEEE Internet of Things Journal*, 8(21):16035–16046. (IF: 9.471 (2021))
- 140) Qian, K., Koike, T., Yoshiuchi, K., Schuller, B., and Yamamoto, Y. (2021c). Can Appliances Understand the Behaviour of Elderly via Machine Learning? A Feasibility Study. *IEEE Internet of Things Journal*, 8(10):8343–8355. (IF: 9.471 (2021))
- 141) Qian, K., Janott, C., Schmitt, M., Zhang, Z., Heiser, C., Hemmert, W., Yamamoto, Y., and Schuller, B. W. (2021a). Can Machine Learning Assist Locating the Excitation of Snore Sound? A Review. *IEEE Journal of Biomedical and Health Informatics*, 25(4):1233–1246. (IF: 5.772 (2021))
- 142) Ren, Z., Kong, Q., Han, J., Plumbley, M. D., and Schuller, B. W. (2021b). CAA-Net: Conditional Atrous CNNs with Attention for Explainable Device-robust Acoustic Scene Classification. *IEEE Transactions on Multimedia*, 31:4131–4142. accepted also for presentation at IEEE ICASSP 2022 (IF: 6.513 (2020))
- 143) Schadenberg, B. R., Reidsma, D., Evers, V., Davison, D. P., Li, J. J., Heylen, D. K., Neves, C., Alvito, P., Shen, J., Pantic, M., Cummins, N., Schuller, B. W., Olaru, V., Sminchisescu, C., Babovic Dimitrijevic, S., Petrovica, S., Baranger, A., Williams, A., Alcorn, A. M., and Pellicano, E. (2021). Predictable Robots for Autistic Children – Variance in Robot Behaviour, Idiosyncrasies in Autistic Children’s Characteristics, and Child–Robot Engagement. *ACM Transactions on Computer-Human Interaction*, 28(5). Article 36, 42 pages (IF: 2.351 (2021))
- 144) Schaefer, J., Milling, M., Schuller, B., Bauer, B.,



- Brunner, J. O., Traidl-Hoffmann, C., and Damialis, A. (2021). Towards automatic airborne pollen monitoring: from commercial devices to operational by mitigating class-imbalance in a deep learning approach. *Science of the Total Environment*, 796:148932. 9 pages (IF: 10.753 (2021))
- 145) Schmid, J., Höß, A., and Schuller, B. W. (2021). A Survey on Client Throughput Prediction Algorithms in Wired and Wireless Networks. *ACM Computing Surveys*, 54(9):1–33. (IF: 10.282 (2021))
- 146) Sertolli, B., Ren, Z., Schuller, B. W., and Cummins, N. (2021). Representation Transfer Learning from Deep End-to-End Speech Recognition Networks for the Classification of Health States from Speech. *Computer Speech and Language*, 68:101204. 44 pages (IF: 2.116 (2019))
- 147) Song, M., Mallol-Ragolta, A., Parada-Cabaleiro, E., Yang, Z., Liu, S., Ren, Z., Zhao, Z., and Schuller, B. W. (2021a). Frustration Recognition from Speech During Game Interaction Using Wide Residual Networks. *Virtual Reality & Intelligent Hardware*, 3(1):76–86
- 148) Stappen, L., Baird, A., Cambria, E., and Schuller, B. (2021a). Sentiment Analysis and Topic Recognition in Video Transcriptions. *IEEE Intelligent Systems Magazine*, 36(2):88–95. (IF: 6.744 (2021))
- 149) Stappen, L., Baird, A., Schumann, L., and Schuller, B. (2021e). The Multimodal Sentiment Analysis in Car Reviews (MuSe-CaR) Dataset: Collection, Insights and Improvements. *IEEE Transactions on Affective Computing*, 12. 16 pages, to appear (IF: 13.99 (2021))
- 150) Tzirakis, P., Chen, J., Zafeiriou, S., and Schuller, B. (2021b). End-to-End Multimodal Affect Recognition in Real-World Environments. *Information Fusion*, 68:46–53. (IF: 13.669 (2019))
- 151) Wolf, S., Schmitt, M., and Schuller, B. (2021). A Football Player Rating System. *Journal of Sports Analytics*, 6(4):243–257
- 152) Ye, Z. J. and Schuller, B. W. (2021b). Capturing dynamics of post-earnings-announcement drift using a genetic algorithm-optimized XGBoost. *Expert Systems With Applications*, 177:114892. 16 pages (IF: 6.954 (2021))
- 153) Zhang, Z., Qian, K., Schuller, B. W., and Wollherr, D. (2021d). An Online Robot Collision Detection and Identification Scheme by Supervised Learning and Bayesian Decision Theory. *IEEE Transactions on Automation Science and Engineering*, 18(3):1144–1156. also accepted for oral presentation at the 2021 IEEE 17. International Conference on Automation Science and Engineering, CASE 2021 (IF: 5.083 (2021))
- 154) Zhang, Z., Liu, D., Han, J., Qian, K., and Schuller, B. W. (2021c). Learning Audio Sequence Representations for Acoustic Event Classification. *Expert Systems With Applications*, 178:115007. 9 pages (IF: 6.954 (2021))
- 155) Zhang, L., Qian, K., Schuller, B. W., and Shibuta, Y. (2021a). Mechanical properties of non-equiatomic high-entropy alloy by atomistic simulation and machine learning. *Metals*, 11(6):1–15. (IF: 2.351 (2021))
- 156) Zhao, Z., Li, Q., Zhang, Z., Cummins, N., Wang, H., Tao, J., and Schuller, B. (2021d). Combining a Parallel 2D CNN with a Self-Attention Dilated Residual Network for CTC-Based Discrete Speech Emotion Recognition. *Neural Networks*, 65:52–60. (IF: 8.050 (2021))
- 157) Zhao, Z., Wang, K., Bao, Z., Zhang, Z., Cummins, N., Sun, S., Wang, H., Tao, J., and Schuller, B. W. (2021e). Self-attention transfer networks for speech emotion recognition. *Virtual Reality & Intelligent Hardware*, 3(1):43–54
- 158) Amiriparian, S., Cummins, N., Gerczuk, M., Pugachevskiy, S., Ottl, S., and Schuller, B. (2020a). “Are You Playing a Shooter Again?!” Deep Representation Learning for Audio-based Video Game Genre Recognition. *IEEE Transactions on Games*, 12(2):145–154. (IF: 1.886 (2019))
- 159) Amiriparian, S., Gerczuk, M., Stappen, L., Baird, A., Koebe, L., Ottl, S., and Schuller, B. (2020b). Towards Cross-Modal Pre-Training and Learning Tempo-Spatial Characteristics for Audio Recognition with Convolutional and Recurrent Neural Networks. *EURASIP Journal on Audio, Speech, and Music Processing*, 2020(19):1–11. (IF: 1.289 (2019))
- 160) Baird, A. and Schuller, B. (2020). Considerations for a More Ethical Approach to Data in AI: on Data Representation and Infrastructure. *Frontiers in Big Data, section Machine Learning and Artificial Intelligence, Special Issue on Ethical Machine Learning and Artificial Intelligence (AI)*, 3(Article ID 25):1–11
- 161) Baur, T., Heimerl, A., Lingenfeller, F., Wagner, J., Valstar, M. F., Schuller, B., and André, E. (2020). eXplainable Cooperative Machine Learning with NOVA. *Künstliche Intelligenz (German Journal on Artificial Intelligence)*, 34(1):1–22
- 162) Cummins, N. and Schuller, B. (2020). Five Crucial Challenges in Digital Health. *Frontiers in Digital Health*, 2(Article ID 536203):1–5
- 163) Deng, J., Schuller, B., Eyben, F., Schuller, D., Zhang, Z., Francois, H., and Oh, E. (2020). Exploiting time-frequency patterns with LSTM RNNs for low-bitrate audio restoration. *Neural Computing and Applications, Special Issue on Deep Learning for Music and Audio*, 32(4):1095–1107. (IF: 5.606 (2020))
- 164) Dong, F., Qian, K., Ren, Z., Baird, A., Li, X., Dai, Z., Dong, B., Metze, F., Yamamoto, Y., and Schuller, B. (2020). Machine Listening for Heart Status Monitoring: Introducing and Benchmarking HSS – the Heart Sounds Shenzhen Corpus. *IEEE Journal of Biomedical and Health Informatics*, 24(7):2082–2093. (IF: 5.772 (2021))
- 165) Haque, K. N., Rana, R., and Schuller, B. W. (2020b). High-Fidelity Audio Generation and Representation Learning with Guided Adversarial Autoencoder. *IEEE Access*, 8:223509–223528. (IF: 3.367 (2020))
- 166) Kaklauskas, A., Zavadskas, E. K., Schuller, B., Lep-

- kova, N., Dzemyda, G., Sliogeriene, J., and Kurasova, O. (2020). Customized VINERS Method for video neuro-advertising of green housing. *International Journal of Environmental Research and Public Health, Special Issue on Trends in Sustainable Buildings and Infrastructure*, 17(7). 27 pages (IF: 2.849 (2019))
- 167) Keren, G., Sabato, S., and Schuller, B. (2020). Analysis of Loss Functions for Fast Single-Class Classification. *Knowledge and Information Systems*, 62:337–358. invited as one of best papers from ICDM 2018 (IF: 2.936 (2019))
- 168) Littmann, M., Selig, K., Cohen, L., Frank, Y., Hönigschmid, P., Kataka, E., Mösch, A., Qian, K., Ron, A., Schmid, S., Sorbie, A., Szlak, L., Dagan-Wiener, A., Ben-Tal, N., Niv, M. Y., Razansky, D., Schuller, B. W., Ankerst, D., Hertz, T., and Rost, B. (2020). Validity of machine learning in biology and medicine increased through collaborations across fields of expertise. *Nature Machine Intelligence*, 2:18–24. (IF: 15.508 (2020))
- 169) Parada-Cabaleiro, E., Costantini, G., Batliner, A., Schmitt, M., and Schuller, B. W. (2020b). DEMoS – An Italian Emotional Speech Corpus – Elicitation methods, machine learning, and perception. *Language Resources and Evaluation*, 54:341–383. (IF: 1.014 (2019))
- 170) Parada-Cabaleiro, E., Batliner, A., Baird, A., and Schuller, B. W. (2020a). The Perception of Emotional Cues by Children in Artificial Background Noise. *International Journal of Speech Technology*, 23:169–182. (IF: 0.29 (2020))
- 171) Pandit, V., Schmitt, M., Cummins, N., and Schuller, B. W. (2020). I see it in your eyes: Training the shallowest-possible CNN to recognise emotions and pain from muted web-assisted in-the-wild video-chats in real-time. *Information Processing and Management*, 57(6):1–18. Article ID 102347 (IF: 3.892 (2018))
- 172) Pokorný, F., Bartl-Pokorný, K., Marschik, D., Marschik, P., Schuller, D., and Schuller, B. (2020a). Efficient Collection and Representation of Preverbal Data in Typical and Atypical Development. *Journal of Nonverbal Behavior, Special Issue on Nonverbal Communication and Early Development*, 44:419–436. (IF: 1.767 (2019))
- 173) Qian, K., Li, X., Li, H., Li, S., Li, W., Ning, Z., Yu, S., Hou, L., Tang, G., Lu, J., Li, F., Duan, S., Du, C., Cheng, Y., Wang, Y., Gan, L., Yamamoto, Y., and Schuller, B. W. (2020a). Computer Audition for Healthcare: Opportunities and Challenges. *Frontiers in Digital Health*, 2:1–4. Article ID 5
- 174) 钱昆 (Kun Qian), 董逢泉 (Fengquan Dong), 任昭 (Zhao Ren), 戴振宇 (Zhenyu Dai), 董博 (Bo Dong), and 博雅恩 (Björn W. Schuller) (2020). 心音识别的机遇与挑战: 深圳心音数据库简介 (Opportunities and Challenges for Heart Sound Recognition: A Brief on the Heart Sounds Shenzhen Corpus). *Journal of Fudan University (Natural Science)*, 59(3):354–359
- 175) Schuller, D. and Schuller, B. (2020a). A Review on Five Recent and Near-Future Developments in Computational Processing of Emotion in the Human Voice. *Emotion Review, Special Section on Emotions and the Voice*, 13(1):44–50. invited contribution (IF: 4.258 (2019))
- 176) Wu, P., Sun, X., Zhao, Z., Wang, H., Pan, S., and Schuller, B. (2020). Classification of Lung Nodules Based on Deep Residual Networks and Migration Learning. *Computational Intelligence and Neuroscience*, 2020. 15 pages (IF: 3.633 (2021))
- 177) Zhang, Y., Weninger, F., Michi, A., Wagner, J., André, E., and Schuller, B. (2020c). A Generic Human-Machine Annotation Framework Using Dynamic Cooperative Learning with a Deep Learning-based Confidence Measure. *IEEE Transactions on Cybernetics*, 50(3):1230–1239. (IF: 11.079 (2019))
- 178) Zhang, Z., Han, J., Qian, K., Janott, C., Guo, Y., and Schuller, B. (2020d). Snore-GANs: Improving Automatic Snore Sound Classification with Synthesized Data. *IEEE Journal of Biomedical and Health Informatics*, 24(1):300–310. (IF: 5.772 (2021))
- 179) Zhao, Z., Bao, Z., Zhang, Z., Deng, J., Cummins, N., Wang, H., Tao, J., and Schuller, B. (2020b). Automatic Assessment of Depression from Speech via a Hierarchical Attention Transfer Network and Attention Autoencoders. *IEEE Journal of Selected Topics in Signal Processing, Special Issue on Automatic Assessment of Health Disorders Based on Voice, Speech and Language Processing*, 14(2):423–434. (IF: 6.856 (2020))
- 180) Schuller, B. (2019b). Micro-Expressions – A Chance for Computers to Beat Humans at Detecting Hidden Emotions? *IEEE Computer Magazine*, 52(2):4–5. (IF: 1.940 (2017))
- 181) Schuller, B. (2019c). Responding to Uncertainty in Emotion Recognition. *Journal of Information, Communication & Ethics in Society*, 17(3):299–303. invited contribution
- 182) Amiriparian, S., Han, J., Schmitt, M., Baird, A., Mallol-Ragolta, A., Milling, M., Gerczuk, M., and Schuller, B. (2019d). Synchronisation in Interpersonal Speech. *Frontiers in Robotics and AI, section Humanoid Robotics, Special Issue on Computational Approaches for Human-Human and Human-Robot Social Interactions*, 6:1–10. Article ID 116
- 183) Grabowski, K., Rynkiewicz, A., Lassalle, A., Baron-Cohen, S., Schuller, B., Cummins, N., Baird, A. E., Podgórska-Bednarz, J., Pieniasek, A., and Lucka, I. (2019). Emotional expression in psychiatric conditions – new technology for clinicians. *Psychiatry and Clinical Neurosciences*, 73(2):50–62. (IF: 3.199 (2017))
- 184) Han, J., Zhang, Z., Cummins, N., and Schuller, B. (2019a). Adversarial Training in Affective Computing and Sentiment Analysis: Recent Advances and Perspectives. *IEEE Computational Intelligence Magazine, Special Issue on Computational Intelligence for Affective Computing and Sentiment Analysis*,

- 14(2):68–81. (IF: 6.611 (2017))
- 185) Janott, C., Schmitt, M., Heiser, C., Hohenhorst, W., Herzog, M., Llatas, M. C., Hemmert, W., and Schuller, B. (2019b). VOTE versus ACLTE: Vergleich zweier Schnarchgeräuschklassifikationen mit Methoden des maschinellen Lernens. *HNO*, 67:670–678. (IF: 1.000 (2019))
- 186) Kollias, D., Tzirakis, P., Nicolaou, M. A., Papaioannou, A., Zhao, G., Schuller, B., Kotsia, I., and Zafeiriou, S. (2019a). Deep Affect Prediction in-the-Wild: Aff-Wild Database and Challenge, Deep Architectures, and Beyond. *International Journal of Computer Vision*, 127(6–7):907–929. (IF: 11.541 (2017))
- 187) Marchi, E., Schuller, B., Baird, A., Baron-Cohen, S., Lassalle, A., O’Reilly, H., Pigat, D., Robinson, P., Davies, I., Baltrusaitis, T., Golan, O., Fridenson-Hayo, S., Tal, S., Newman, S., Meir-Goren, N., Camurri, A., Piana, S., Bölte, S., Sezgin, M., Alyuz, N., Rynkiewicz, A., and Baranger, A. (2019). The ASC-Inclusion Perceptual Serious Gaming Platform for Autistic Children. *IEEE Transactions on Computational Intelligence and AI in Games, Special Issue on Computational Intelligence in Serious Digital Games*, 11(4):328–339. (IF: 1.886 (2019))
- 188) Oates, C., Triantafyllopoulos, A., and Schuller, B. W. (2019a). Enabling Early Detection and Continuous Monitoring of Parkinson’s Disease. *Technology and Disability, Special Issue: AAATE 2019 Conference – Global Challenges in Assistive Technology: Research, Policy & Practice, 27–30 August 2019, Bologna, Italy*, 31(S1):S84–S85
- 189) Pokorny, F. B., Fiser, M., Graf, F., Marschik, P. B., and Schuller, B. W. (2019). Sound and the city: Current perspectives on acoustic geo-sensing in urban environment. *Acta Acustica united with Acustica*, 105(5):766–778. (IF: 1.037 (2018))
- 190) Qian, K., Schmitt, M., Janott, C., Zhang, Z., Heiser, C., Hohenhorst, W., Herzog, M., Hemmert, W., and Schuller, B. (2019d). A Bag of Wavelet Features for Snore Sound Classification. *Annals of Biomedical Engineering*, 47(4):1000–1011. (IF: 3.405 (2017))
- 191) Xie, Y., Liang, R., Liang, Z., Huang, C., Zou, C., and Schuller, B. (2019). Speech Emotion Classification Using Attention-based LSTM. *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 27(11):1675–1685. (IF: 3.398 (2019))
- 192) Xu, X., Deng, J., Coutinho, E., Wu, C., Zhao, L., and Schuller, B. (2019a). Connecting Subspace Learning and Extreme Learning Machine in Speech Emotion Recognition. *IEEE Transactions on Multimedia*, 21:795–808. (IF: 6.051 (2019))
- 193) Zhang, Z., Han, J., Coutinho, E., and Schuller, B. (2018c). Dynamic Difficulty Awareness Training for Continuous Emotion Prediction. *IEEE Transactions on Multimedia*, 21(5):1289–1301. (IF: 3.509 (2018))
- 194) Zhao, Z., Bao, Z., Zhao, Y., Zhang, Z., Cummins, N., Ren, Z., and Schuller, B. (2019b). Exploring Deep Spectrum Representations via Attention-based Recurrent and Convolutional Neural Networks for Speech Emotion Recognition. *IEEE Access*, 7:97515–97525. (IF: 3.745 (2019))
- 195) Schuller, B., Zhang, Y., and Wenginger, F. (2018a). Three Recent Trends in Paralinguistics on the Way to Omniscient Machine Intelligence. *Journal on Multimodal User Interfaces, Special Issue on Speech Communication*, 12:273–283. (IF: 1.140 (2017))
- 196) Schuller, B., Wenginger, F., Zhang, Y., Ringeval, F., Batliner, A., Steidl, S., Eyben, F., Marchi, E., Vinciarrelli, A., Scherer, K., Chetouani, M., and Mortillaro, M. (2019a). Affective and Behavioural Computing: Lessons Learnt from the First Computational Paralinguistics Challenge. *Computer Speech and Language*, 53(1):156–180. (IF: 2.116 (2019))
- 197) Schuller, B. (2018e). Speech Emotion Recognition: Two Decades in a Nutshell, Benchmarks, and Ongoing Trends. *Communications of the ACM*, 61(5):90–99. Feature Article (IF: 4.027 (2016))
- 198) Schuller, B. (2018g). What Affective Computing Reveals about Autistic Children’s Facial Expressions of Joy or Fear. *IEEE Computer Magazine*, 51(6):40–41. (IF: 1.940 (2017))
- 199) Baird, A., Jorgensen, S. H., Parada-Cabaleiro, E., Hantke, S., Cummins, N., and Schuller, B. (2018c). Listener Perception of Vocal Traits in Synthesized Voices: Age, Gender, and Human-Likeness. *Journal of the Audio Engineering Society, Special Issue on Augmented and Participatory Sound and Music Interaction using Semantic Audio*, 66(4):277–285. (IF: 0.707 (2016))
- 200) Coutinho, E., Gentsch, K., van Peer, J., Scherer, K. R., and Schuller, B. (2018). Evidence of Emotion-Antecedent Appraisal Checks in Electroencephalography and Facial Electromyography. *PLoS ONE*, 13(1, Article ID e0189367):1–19. (IF: 2.806 (2016))
- 201) Cummins, N., Schuller, B. W., and Baird, A. (2018b). Speech analysis for health: Current state-of-the-art and the increasing impact of deep learning. *Methods, Special Issue on Health Informatics and Translational Data Analytics*, 151:41–54. (IF: 3.998 (2017))
- 202) Deng, J., Xu, X., Zhang, Z., Frühholz, S., and Schuller, B. (2018). Semi-Supervised Autoencoders for Speech Emotion Recognition. *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 26(1):31–43. (IF: 2.950 (2017))
- 203) Freitag, M., Amiriparian, S., Pugachevskiy, S., Cummins, N., and Schuller, B. (2018). auDeep: Unsupervised Learning of Representations from Audio with Deep Recurrent Neural Networks. *Journal of Machine Learning Research*, 18:1–5. (IF: 5.000 (2016))
- 204) Han, J., Zhang, Z., Keren, G., and Schuller, B. (2018c). Emotion Recognition in Speech with Latent Discriminative Representations Learning. *Acta Acustica united with Acustica*, 104(5):737–740. (IF: 1.119 (2016))
- 205) Hantke, S., Olenyi, T., Hausner, C., and Schuller, B.

- (2018e). Large-Scale Data Collection and Analysis via a Gamified Intelligent Crowdsourcing Platform. *International Journal of Automation and Computing*, 16(4):427–436. 10 pages, invited as one of 8 % best papers of ACII Asia 2018
- 206) Hantke, S., Abstreiter, A., Cummins, N., and Schuller, B. (2018a). Trustability-based Dynamic Active Learning for Crowdsourced Labelling of Emotional Audio Data. *IEEE Access*, 6(42142–42155). (IF: 4.098 (2018))
- 207) Janott, C., Schmitt, M., Zhang, Y., Qian, K., Pandit, V., Zhang, Z., Heiser, C., Hohenhorst, W., Herzog, M., Hemmert, W., and Schuller, B. (2018). Snoring Classified: The Munich Passau Snore Sound Corpus. *Computers in Biology and Medicine*, 94(1):106–118. (IF: 2.115 (2017))
- 208) Jing, S., Mao, X., Chen, L., Comes, M. C., Mencattini, A., Raguso, G., Ringeval, F., Schuller, B., Natale, C. D., and Martinelli, E. (2018). A closed-form solution to the graph total variation problem for continuous emotion profiling in noisy environment. *Speech Communication*, 104(11):66–72. (acceptance rate: 38 %, IF: 1.585 (2017))
- 209) Keren, G., Cummins, N., and Schuller, B. (2018a). Calibrated Prediction Intervals for Neural Network Regressors. *IEEE Access*, 6:54033–54041. 9 pages (IF: 4.098 (2018))
- 210) Lingenfeller, F., Wagner, J., Deng, J., Brueckner, R., Schuller, B., and André, E. (2018). Asynchronous and Event-based Fusion Systems for Affect Recognition on Naturalistic Data in Comparison to Conventional Approaches. *IEEE Transactions on Affective Computing*, 9(4):410–423. (IF: 13.99 (2021))
- 211) Mencattini, A., Mosciano, F., Colomba Comes, M., De Gregorio, T., Raguso, G., Daprati, E., Ringeval, F., Schuller, B., and Martinelli, E. (2018). An emotional modulation model as signature for the identification of children developmental disorders. *Scientific Reports*, 8(Article ID: 14487):1–12. (IF: 4.122 (2017))
- 212) Pokorny, F. B., Bartl-Pokorny, K. D., Einspieler, C., Zhang, D., Vollmann, R., Bölte, S., Tager-Flusberg, H., Gugatschka, M., Schuller, B. W., and Marschik, P. B. (2018). Typical vs. atypical: Combining auditory Gestalt perception and acoustic analysis of early vocalisations in Rett syndrome. *Research in Developmental Disabilities*, 82:109–119. (IF: 1.820 (2017))
- 213) Qian, K., Janott, C., Zhang, Z., Deng, J., Baird, A., Heiser, C., Hohenhorst, W., Herzog, M., Hemmer, W., and Schuller, B. (2018). Teaching Machines on Snoring: A Benchmark on Computer Audition for Snore Sound Excitation Localisation. *Archives of Acoustics*, 43(3):465–475. (IF: 0.917 (2017))
- 214) Ren, Z., Qian, K., Zhang, Z., Pandit, V., Baird, A., and Schuller, B. (2018d). Deep Scalogram Representations for Acoustic Scene Classification. *IEEE/CAA Journal of Automatica Sinica*, 5(3):662–669. invited contribution (IF: 6.171 (2020))
- 215) Roche, L., Zhang, D., Pokorny, F. B., Schuller, B. W., Esposito, G., Bölte, S., Roeyers, H., Poustka, L., Bartl-Pokorny, K. D., Gugatschka, M., Waddington, H., Vollmann, R., Einspieler, C., and Marschik, P. B. (2018). Early Vocal Development in Autism Spectrum Disorders, Rett Syndrome, and Fragile X Syndrome: Insights from Studies using Retrospective Video Analysis. *Advances in Neurodevelopmental Disorders*, 2(1):49–61
- 216) Rudovic, O., Lee, J., Dai, M., Schuller, B., and Picard, R. W. (2018b). Personalized machine learning for robot perception of affect and engagement in autism therapy. *Science Robotics*, 3(19). 12 pages (IF: 19.400 (2018))
- 217) Schuller, D. and Schuller, B. (2018). The Age of Artificial Emotional Intelligence. *IEEE Computer Magazine, Special Issue on The Future of Artificial Intelligence*, 51(9):38–46. cover feature (IF: 1.940 (2017))
- 218) Trigeorgis, G., Nicolaou, M. A., Schuller, B., and Zafeiriou, S. (2018). Deep Canonical Time Warping for simultaneous alignment and representation learning of sequences. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 40(5):1128–1138. (IF: 17.730 (2018))
- 219) Zhang, Z., Geiger, J. T., Pohjalainen, J., Mousa, A. E., Jin, W., and Schuller, B. (2018b). Deep Learning for Environmentally Robust Speech Recognition: An Overview of Recent Developments. *ACM Transactions on Intelligent Systems and Technology*, 9(5, Article No. 49). 14 pages (IF: 2.973 (2017))
- 220) Zhang, Z., Han, J., Deng, J., Xu, X., Ringeval, F., and Schuller, B. (2018e). Leveraging Unlabelled Data for Emotion Recognition with Enhanced Collaborative Semi-Supervised Learning. *IEEE Access*, 6:22196–22209. (IF: 4.098 (2018))
- 221) Schuller, B. (2017b). Can Affective Computing Save Lives? Meet Mobile Health. *IEEE Computer Magazine*, 50:40. (IF: 1.940 (2017))
- 222) Schuller, B. (2017d). Maschinelle Profilierung durch KI. *digma – Zeitschrift für Datenrecht und Informationssicherheit*, 1(4):204–210. invited contribution
- 223) Buitelaar, P., Wood, I. D., Negi, S., Arcan, M., McCrae, J. P., Abele, A., Robin, C., Andryushechkin, V., Sagha, H., Schmitt, M., Schuller, B. W., Sánchez-Rada, J. F., Iglesias, C. A., Navarro, C., Giefer, A., Heise, N., Masucci, V., Danza, F. A., Caterino, C., Smrz, P., Hradis, M., Povolný, F., Klimes, M., Matejka, P., and Tummarello, G. (2017). MixedEmotions: An Open-Source Toolbox for Multi-Modal Emotion Analysis. *IEEE Transactions on Multimedia*, 20(9):2454–2465. (IF: 3.509 (2016))
- 224) Coutinho, E. and Schuller, B. (2017). Shared Acoustic Codes Underlie Emotional Communication in Music and Speech – Evidence from Deep Transfer Learning. *PLoS ONE*, 12(6). 24 pages (IF: 2.806 (2016))
- 225) Deng, J., Frühholz, S., Zhang, Z., and Schuller, B. (2017c). Recognizing Emotions From Whispered

- Speech Based on Acoustic Feature Transfer Learning. *IEEE Access*, 5(1):5235–5246. (IF: 3.557 (2017))
- 226) Deng, J., Xu, X., Zhang, Z., Frühholz, S., and Schuller, B. (2017d). Universum Autoencoder-based Domain Adaptation for Speech Emotion Recognition. *IEEE Signal Processing Letters*, 24(4):500–504. (IF: 2.813 (2017))
- 227) Guo, J., Qian, K., Zhang, G., Xu, H., and Schuller, B. (2017c). Accelerating biomedical signal processing using GPU: A case study of snore sounds feature extraction. *Interdisciplinary Sciences – Computational Life Sciences*, 9(4):550–555. (IF: 0.853 (2015))
- 228) Han, J., Zhang, Z., Cummins, N., Ringeval, F., and Schuller, B. (2017a). Strength Modelling for Real-World Automatic Continuous Affect Recognition from Audiovisual Signals. *Image and Vision Computing, Special Issue on Multimodal Sentiment Analysis and Mining in the Wild*, 65:76–86. (IF: 2.671 (2016))
- 229) Janott, C., Schuller, B., and Heiser, C. (2017). Akustische Informationen von Schnarchgeräuschen. *HNO, Leitthemenheft “Schlafmedizin”*, 22(2):1–10. (IF: 0.893 (2017))
- 230) Marchi, E., Vesperini, F., Squartini, S., and Schuller, B. (2017). Deep Recurrent Neural Network-based Autoencoders for Acoustic Novelty Detection. *Computational Intelligence and Neuroscience*, 2017. 14 pages (IF: 1.649 (2017))
- 231) Marschik, P. B., Pokorny, F. B., Peharz, R., Zhang, D., O’Muircheartaigh, J., Roeyers, H., Bölte, S., Spittle, A. J., Urlsberger, B., Schuller, B., Poustka, L., Ozonoff, S., Pernkopf, F., Pock, T., Tammimies, K., Enzinger, C., Kriebler, M., Tomantschger, I., Bartl-Pokorny, K. D., Sigafoos, J., Roche, L., Esposito, G., Gugatschka, M., Nielsen-Saines, K., Einspieler, C., Kaufmann, W. E., and The BEE-PRI study group (2017). A Novel Way to Measure and Predict Development: A Heuristic Approach to Facilitate the Early Detection of Neurodevelopmental Disorders. *Current Neurology and Neuroscience Reports*, 17(43). 15 pages (IF: 3.479 (2017))
- 232) Mencattini, A., Martinelli, E., Ringeval, F., Schuller, B., and Di Natale, C. (2017). Continuous Estimation of Emotions in Speech by Dynamic Cooperative Speaker Models. *IEEE Transactions on Affective Computing*, 8(3):314–327. (IF: 4.585 (2017))
- 233) Mosciano, F., Mencattini, A., Ringeval, F., Schuller, B., Martinelli, E., and Di Natale, C. (2017). An array of physical sensors and an adaptive regression strategy for emotion recognition in a noisy scenario. *Sensors & Actuators A: Physical*, 267(1):48–59. (IF: 2.311 (2017))
- 234) Tzirakis, P., Trigeorgis, G., Nicolaou, M. A., Schuller, B., and Zafeiriou, S. (2017a). End-to-End Multimodal Emotion Recognition using Deep Neural Networks. *IEEE Journal of Selected Topics in Signal Processing, Special Issue on End-to-End Speech and Language Processing*, 11(8):1301–1309. (IF: 6.688 (2018))
- 235) Pandit, V. and Schuller, B. (2017). A Novel Graphical Technique for Combinational Logic Representation and Optimization. *Complexity*, 2017(Article ID 9696342). 12 pages (IF: 4.621 (2016))
- 236) Qian, K., Zhang, Z., Baird, A., and Schuller, B. (2017e). Active Learning for Bird Sounds Classification. *Acta Acustica united with Acustica*, 103:361–364. (IF: 1.119 (2016))
- 237) Qian, K., Zhang, Z., Baird, A., and Schuller, B. (2017d). Active Learning for Bird Sound Classification via a Kernel-based Extreme Learning Machine. *Journal of the Acoustical Society of America*, 142(4):1796–1804. (IF: 1.547 (2016))
- 238) Qian, K., Janott, C., Pandit, V., Zhang, Z., Heiser, C., Hohenhorst, W., Herzog, M., Hemmert, W., and Schuller, B. (2017b). Classification of the Excitation Location of Snore Sounds in the Upper Airway by Acoustic Multi-Feature Analysis. *IEEE Transactions on Biomedical Engineering*, 64(8):1731–1741. (IF: 4.288 (2017))
- 239) Rudovic, O., Lee, J., Mascarell-Maricic, L., Schuller, B. W., and Picard, R. (2017). Measuring Engagement in Autism Therapy with Social Robots: a Cross-cultural Study. *Frontiers in Robotics and AI, section Humanoid Robotics, Special Issue on Affective and Social Signals for HRI*, 4:1–17. Article ID 36
- 240) Sagha, H., Cummins, N., and Schuller, B. (2017a). Stacked Denoising Autoencoders for Sentiment Analysis: A Review. *WIREs Data Mining and Knowledge Discovery*, 7(5). 15 pages, invited review article (IF: 2.111 (2016))
- 241) Schmitt, M. and Schuller, B. (2017a). openXBOW – Introducing the Passau Open-Source Crossmodal Bag-of-Words Toolkit. *Journal of Machine Learning Research*, 18:1–5. (IF: 5.000 (2016))
- 242) Soleymani, M., Garcia, D., Jou, B., Schuller, B., Chang, S.-F., and Pantic, M. (2017a). A Survey of Multimodal Sentiment Analysis. *Image and Vision Computing, Special Issue on Multimodal Sentiment Analysis and Mining in the Wild*, 35:3–14. (IF: 2.671 (2016))
- 243) Trigeorgis, G., Bousmalis, K., Zafeiriou, S., and Schuller, B. (2017). A deep matrix factorization method for learning attribute representations. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 39(3):417–429. (IF: 9.455 (2017))
- 244) Xu, X., Deng, J., Cummins, N., Zhang, Z., Wu, C., Zhao, L., and Schuller, B. (2017). A Two-Dimensional Framework of Multiple Kernel Subspace Learning for Recognising Emotion in Speech. *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 25(7):1436–1449. (IF: 2.950 (2017))
- 245) Zhang, Z., Cummins, N., and Schuller, B. (2017d). Advanced Data Exploitation in Speech Analysis – An Overview. *IEEE Signal Processing Magazine*, 34(4):107–129. (IF: 9.564 (2016))
- 246) Schuller, B. (2016c). Can Virtual Human Interviewers “Hear” Real Humans’ Depression? *IEEE Computer*

- Magazine*, 49(7):8. (IF: 1.940 (2017))
- 247) Deng, J., Xu, X., Zhang, Z., Frühholz, S., and Schuller, B. (2016c). Exploitation of Phase-based Features for Whispered Speech Emotion Recognition. *IEEE Access*, 4:4299–4309. (IF: 3.557 (2017))
- 248) Eyben, F., Scherer, K., Schuller, B., Sundberg, J., André, E., Busso, C., Devillers, L., Epps, J., Laukka, P., Narayanan, S., and Truong, K. (2016). The Geneva Minimalistic Acoustic Parameter Set (GeMAPS) for Voice Research and Affective Computing. *IEEE Transactions on Affective Computing*, 7(2):190–202. (acceptance rate: 22 %, IF: 3.149 (2016))
- 249) Gross, F., Jordan, J., Weninger, F., Klanner, F., and Schuller, B. (2016). Route and Stopping Intent Prediction at Intersections from Car Fleet Data. *IEEE Transactions on Intelligent Vehicles*, 1(2):177–186. (IF: 4.051 (2017))
- 250) Han, W., Coutinho, E., Ruan, H., Li, H., Schuller, B., Yu, X., and Zhu, X. (2016). Semi-Supervised Active Learning for Sound Classification in Hybrid Learning Environments. *PLoS ONE*, 11(9). 23 pages (IF: 2.806 (2016))
- 251) Hantke, S., Weninger, F., Kurle, R., Ringeval, F., Batliner, A., El-Desoky Mousa, A., and Schuller, B. (2016c). I Hear You Eat and Speak: Automatic Recognition of Eating Condition and Food Types, Use-Cases, and Impact on ASR Performance. *PLoS ONE*, 11(5):1–24. (IF: 2.806 (2016))
- 252) Marchi, E., Frühholz, S., and Schuller, B. (2016b). The Effect of Narrow-band Transmission on Recognition of Paralinguistic Information from Human Vocalizations. *IEEE Access*, 4:6059–6072. (IF: 3.244 (2016))
- 253) Rynkiewicz, A., Schuller, B., Marchi, E., Piana, S., Camurri, A., Lassalle, A., and Baron-Cohen, S. (2016a). An investigation of the ‘female camouflage effect’ in autism using a computerized ADOS-2, and a test of sex/gender differences. *Molecular Autism*, 7(10). 8 pages (IF: 5.872 (2017))
- 254) Sagha, H., Li, F., Varianni, E., del R. Millán, J., Chavarriaga, R., and Schuller, B. (2016b). Stream fusion for multi-stream automatic speech recognition. *International Journal of Speech Technology*, 19(4):669–675. (IF: 0.28 (2017))
- 255) Schuller, B., Steidl, S., Batliner, A., Nöth, E., Vinciarelli, A., Burkhardt, F., van Son, R., Weninger, F., Eyben, F., Bocklet, T., Mohammadi, G., and Weiss, B. (2015d). A Survey on Perceived Speaker Traits: Personality, Likability, Pathology, and the First Challenge. *Computer Speech and Language, Special Issue on Next Generation Computational Paralinguistics*, 29(1):100–131. (IF: 1.900 (2016))
- 256) Schuller, B. (2015c). Do Computers Have Personality? *IEEE Computer Magazine*, 48(3):6–7. (IF: 1.940 (2017))
- 257) Schuller, B., Mousa, A. E.-D., and Vasileios, V. (2015b). Sentiment Analysis and Opinion Mining: On Optimal Parameters and Performances. *WIRES Data Mining and Knowledge Discovery*, 5:255–263. invited focus article (IF: 2.111 (2016))
- 258) Coutinho, E. and Schuller, B. (2015). Automatic estimation of biosignals from the human voice. *Science, Special Supplement on Advances in Computational Psychophysiology*, 350(6256):114:48–50. invited contribution
- 259) Eyben, F., Salomao, G. L., Sundberg, J., Scherer, K., and Schuller, B. (2015b). Emotion in the singing voice – a deeper look at acoustic features in the light of automatic classification. *EURASIP Journal on Audio, Speech, and Music Processing, Special Issue on Scalable Audio-Content Analysis*, 2015. 9 pages (IF: 3.057 (2017))
- 260) Mencattini, A., Ringeval, F., Schuller, B., Martinelli, E., and Natale, C. D. (2015). Continuous monitoring of emotions by a multimodal cooperative sensor system. *Procedia Engineering, Special Issue EuroSensors 2015*, 120:556–559
- 261) Ringeval, F., Eyben, F., Kroupi, E., Yuce, A., Thiran, J.-P., Ebrahimi, T., Lalanne, D., and Schuller, B. (2015a). Prediction of Asynchronous Dimensional Emotion Ratings from Audiovisual and Physiological Data. *Pattern Recognition Letters*, 66:22–30. (acceptance rate: 25 %, IF: 1.995 (2016))
- 262) Weninger, F., Bergmann, J., and Schuller, B. (2015a). Introducing CURRENNT: the Munich Open-Source CUDA RecurREnt Neural Network Toolkit. *Journal of Machine Learning Research*, 16:547–551. (IF: 5.000 (2016))
- 263) Zhang, Z., Coutinho, E., Deng, J., and Schuller, B. (2015d). Cooperative Learning and its Application to Emotion Recognition from Speech. *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 23(1):115–126. (IF: 2.950 (2017))
- 264) Schuller, B., Steidl, S., Batliner, A., Schiel, F., Krajewski, J., Weninger, F., and Eyben, F. (2014g). Medium-Term Speaker States – A Review on Intoxication, Sleepiness and the First Challenge. *Computer Speech and Language, Special Issue on Broadening the View on Speaker Analysis*, 28(2):346–374. (acceptance rate: 23 %, IF: 1.812 (2013))
- 265) Rosner, A., Schuller, B., and Kostek, B. (2014). Classification of music genres based on music separation into harmonic and drum components. *Archives of Acoustics*, 39(4):629–638. (IF: 0.917 (2017))
- 266) Zhang, Z., Coutinho, E., Deng, J., and Schuller, B. (2014a). Distributing Recognition in Computational Paralinguistics. *IEEE Transactions on Affective Computing*, 5(4):406–417. (acceptance rate: 22 %, IF: 3.466 (2013))
- 267) Deng, J., Zhang, Z., Eyben, F., and Schuller, B. (2014b). Autoencoder-based Unsupervised Domain Adaptation for Speech Emotion Recognition. *IEEE Signal Processing Letters*, 21(9):1068–1072. (IF: 2.813 (2017))
- 268) Geiger, J. T., Weninger, F., Gemmeke, J. F., Wöllmer, M., Schuller, B., and Rigoll, G. (2014e). Memory-

- Enhanced Neural Networks and NMF for Robust ASR. *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 22(6):1037–1046. (IF: 2.950 (2017))
- 269) Weninger, F., Geiger, J., Wöllmer, M., Schuller, B., and Rigoll, G. (2014a). Feature Enhancement by Deep LSTM Networks for ASR in Reverberant Multisource Environments. *Computer Speech and Language*, 28(4):888–902. (acceptance rate: 23 %, IF: 1.812 (2013))
- 270) Wöllmer, M. and Schuller, B. (2014). Probabilistic Speech Feature Extraction with Context-Sensitive Bottleneck Neural Networks. *Neurocomputing, Special Issue on Machines learning for Non-Linear Processing, Selected papers from the 2011 International Conference on Non-Linear Speech Processing (NoLISP 2011)*, 132:113–120. (IF: 3.317 (2016))
- 271) Zhang, Z., Pinto, J., Plahl, C., Schuller, B., and Willett, D. (2014c). Channel Mapping using Bidirectional Long Short-Term Memory for Dereverberation in Hands-Free Voice Controlled Devices. *IEEE Transactions on Consumer Electronics*, 60(3):525–533. (acceptance rate: 15 %, IF: 1.157 (2013))
- 272) Schuller, B., Dunwell, I., Weninger, F., and Paletta, L. (2013a). Serious Gaming for Behavior Change – The State of Play. *IEEE Pervasive Computing Magazine, Special Issue on Understanding and Changing Behavior*, 12(3):48–55. (IF: 3.022 (2017))
- 273) Schuller, B., Steidl, S., Batliner, A., Burkhardt, F., Devillers, L., Müller, C., and Narayanan, S. (2013h). Paralinguistics in Speech and Language – State-of-the-Art and the Challenge. *Computer Speech and Language, Special Issue on Paralinguistics in Naturalistic Speech and Language*, 27(1):4–39. (CSL most downloaded article 2012–2014 (3 208 downloads) (acceptance rate: 36 %, IF: 1.812 (2013))
- 274) Cambria, E., Schuller, B., Xia, Y., and Havasi, C. (2013c). New Avenues in Opinion Mining and Sentiment Analysis. *IEEE Intelligent Systems Magazine*, 28(2):15–21. (IF: 2.596 (2017))
- 275) Eyben, F., Weninger, F., Lehment, N., Schuller, B., and Rigoll, G. (2013b). Affective Video Retrieval: Violence Detection in Hollywood Movies by Large-Scale Segmental Feature Extraction. *PLOS ONE*, 8(12):1–9. (acceptance rate: 50 %, IF: 3.534 (2013))
- 276) Gunes, H. and Schuller, B. (2013a). Categorical and Dimensional Affect Analysis in Continuous Input: Current Trends and Future Directions. *Image and Vision Computing, Special Issue on Affect Analysis in Continuous Input*, 31(2):120–136. (acceptance rate: 20 %, IF: 1.581 (2013))
- 277) Hofmann, M., Geiger, J., Bachmann, S., Schuller, B., and Rigoll, G. (2013). The TUM Gait from Audio, Image and Depth (GAID) Database: Multimodal Recognition of Subjects and Traits. *Journal of Visual Communication and Image Representation, Special Issue on Visual Understanding and Applications with RGB-D Cameras*, 25(1):195–206. (IF: 1.361 (2013))
- 278) Weninger, F., Eyben, F., Schuller, B. W., Mortillaro, M., and Scherer, K. R. (2013b). On the Acoustics of Emotion in Audio: What Speech, Music and Sound have in Common. *Frontiers in Psychology, section Emotion Science, Special Issue on Expression of emotion in music and vocal communication*, 4(Article ID 292):1–12. (IF: 2.843 (2013))
- 279) Weninger, F., Staudt, P., and Schuller, B. (2013e). Words that Fascinate the Listener: Predicting Affective Ratings of On-Line Lectures. *International Journal of Distance Education Technologies, Special Issue on Emotional Intelligence for Online Learning*, 11(2):110–123
- 280) Wöllmer, M., Schuller, B., and Rigoll, G. (2013b). Keyword Spotting Exploiting Long Short-Term Memory. *Speech Communication*, 55(2):252–265. (IF: 1.768 (2016))
- 281) Wöllmer, M., Weninger, F., Knaup, T., Schuller, B., Sun, C., Sagae, K., and Morency, L.-P. (2013e). YouTube Movie Reviews: Sentiment Analysis in an Audiovisual Context. *IEEE Intelligent Systems Magazine, Special Issue on Statistical Approaches to Concept-Level Sentiment Analysis*, 28(3):46–53. (IF: 2.596 (2017))
- 282) Wöllmer, M., Kaiser, M., Eyben, F., Schuller, B., and Rigoll, G. (2013a). LSTM-Modeling of Continuous Emotions in an Audiovisual Affect Recognition Framework. *Image and Vision Computing, Special Issue on Affect Analysis in Continuous Input*, 31(2):153–163. (acceptance rate: 20 %, IF: 1.581 (2013))
- 283) Schuller, B. (2012c). The Computational Paralinguistics Challenge. *IEEE Signal Processing Magazine*, 29(4):97–101. (IF: 6.000 (2011))
- 284) Schuller, B. and Gollan, B. (2012). Music Theoretic and Perception-based Features for Audio Key Determination. *Journal of New Music Research*, 41(2):175–193. (IF: 0.755 (2010))
- 285) Schuller, B. (2012b). Recognizing Affect from Linguistic Information in 3D Continuous Space. *IEEE Transactions on Affective Computing*, 2(4):192–205. (acceptance rate: 22 %, IF: 3.466 (2013))
- 286) Schuller, B., Zhang, Z., Weninger, F., and Burkhardt, F. (2012h). Synthesized Speech for Model Training in Cross-Corpus Recognition of Human Emotion. *International Journal of Speech Technology, Special Issue on New and Improved Advances in Speaker Recognition Technologies*, 15(3):313–323. (IF: 0.28 (2017))
- 287) Rotili, R., Principi, E., Squartini, S., and Schuller, B. (2012a). A Real-Time Speech Enhancement Framework in Noisy and Reverberated Acoustic Scenarios. *Cognitive Computation*, 5(4):504–516. (IF: 4.287 (2018))
- 288) Eyben, F., Batliner, A., and Schuller, B. (2012a). Towards a standard set of acoustic features for the processing of emotion in speech. *Proceedings of Meetings on Acoustics*, 16. 11 pages

- 289) Weninger, F., Krajewski, J., Batliner, A., and Schuller, B. (2012c). The Voice of Leadership: Models and Performances of Automatic Analysis in On-Line Speeches. *IEEE Transactions on Affective Computing*, 3(4):496–508. (acceptance rate: 22 %, IF: 3.466 (2013))
- 290) Wöllmer, M., Weninger, F., Geiger, J., Schuller, B., and Rigoll, G. (2013d). Noise Robust ASR in Reverberated Multisource Environments Applying Convolutional NMF and Long Short-Term Memory. *Computer Speech and Language, Special Issue on Speech Separation and Recognition in Multisource Environments*, 27(3):780–797. (acceptance rate: 36 %, IF: 1.812 (2013))
- 291) Weninger, F. and Schuller, B. (2012b). Optimization and Parallelization of Monaural Source Separation Algorithms in the openBliSSART Toolkit. *Journal of Signal Processing Systems*, 69(3):267–277. (IF: 0.672 (2011))
- 292) Principi, E., Rotili, R., Wöllmer, M., Eyben, F., Squartini, S., and Schuller, B. (2012a). Real-Time Activity Detection in a Multi-Talker Reverberated Environment. *Cognitive Computation, Special Issue on Cognitive and Emotional Information Processing for Human-Machine Interaction*, 4(4):386–397. (IF: 4.287 (2018))
- 293) Krajewski, J., Schnieder, S., Sommer, D., Batliner, A., and Schuller, B. (2012). Applying Multiple Classifiers and Non-Linear Dynamics Features for Detecting Sleepiness from Speech. *Neurocomputing, Special Issue From neuron to behavior: evidence from behavioral measurements*, 84:65–75. (acceptance rate: 31 %, IF: 2.005 (2013))
- 294) Metallinou, A., Wöllmer, M., Katsamanis, A., Eyben, F., Schuller, B., and Narayanan, S. (2012). Context-Sensitive Learning for Enhanced Audiovisual Emotion Classification. *IEEE Transactions on Affective Computing*, 3(2):184–198. (acceptance rate: 22 %, IF: 3.466 (2013))
- 295) Eyben, F., Wöllmer, M., and Schuller, B. (2012e). A Multi-Task Approach to Continuous Five-Dimensional Affect Sensing in Natural Speech. *ACM Transactions on Interactive Intelligent Systems, Special Issue on Affective Interaction in Natural Environments*, 2(1). 29 pages
- 296) Grosche, P., Schuller, B., Müller, M., and Rigoll, G. (2012). Automatic Transcription of Recorded Music. *Acta Acustica united with Acustica*, 98(2):199–215(17). (IF: 0.714 (2012))
- 297) Schröder, M., Bevacqua, E., Cowie, R., Eyben, F., Gunes, H., Heylen, D., ter Maat, M., McKeown, G., Pammi, S., Pantic, M., Pelachaud, C., Schuller, B., de Sevin, E., Valstar, M., and Wöllmer, M. (2012). Building Autonomous Sensitive Artificial Listeners. *IEEE Transactions on Affective Computing*, 3(2):165–183. (acceptance rate: 22 %, IF: 3.466 (2013))
- 298) Schuller, B. (2011a). Affective Speaker State Analysis in the Presence of Reverberation. *International Journal of Speech Technology*, 14(2):77–87. (IF: 0.28 (2017))
- 299) Schuller, B., Batliner, A., Steidl, S., and Seppi, D. (2011b). Recognising Realistic Emotions and Affect in Speech: State of the Art and Lessons Learnt from the First Challenge. *Speech Communication, Special Issue on Sensing Emotion and Affect – Facing Realism in Speech Processing*, 53(9/10):1062–1087. (acceptance rate: 38 %, IF: 1.267 (2011))
- 300) Wöllmer, M., Marchi, E., Squartini, S., and Schuller, B. (2011c). Multi-Stream LSTM-HMM Decoding and Histogram Equalization for Noise Robust Keyword Spotting. *Cognitive Neurodynamics*, 5(3):253–264. (acceptance rate: 50 %, IF: 1.77 (2013))
- 301) Wöllmer, M., Weninger, F., Eyben, F., and Schuller, B. (2011i). Computational Assessment of Interest in Speech – Facing the Real-Life Challenge. *Künstliche Intelligenz (German Journal on Artificial Intelligence), Special Issue on Emotion and Computing*, 25(3):227–236
- 302) Wöllmer, M., Blaschke, C., Schindl, T., Schuller, B., Färber, B., Mayer, S., and Trefflich, B. (2011a). On-line Driver Distraction Detection using Long Short-Term Memory. *IEEE Transactions on Intelligent Transportation Systems*, 12(2):574–582. (IF: 3.452 (2011))
- 303) Wöllmer, M., Schuller, B., Batliner, A., Steidl, S., and Seppi, D. (2011e). Tandem Decoding of Children’s Speech for Keyword Detection in a Child-Robot Interaction Scenario. *ACM Transactions on Speech and Language Processing, Special Issue on Speech and Language Processing of Children’s Speech for Child-machine Interaction Applications*, 7(4). 22 pages, Article 12
- 304) Weninger, F., Schuller, B., Batliner, A., Steidl, S., and Seppi, D. (2011d). Recognition of Non-Prototypical Emotions in Reverberated and Noisy Speech by Non-Negative Matrix Factorization. *EURASIP Journal on Advances in Signal Processing, Special Issue on Emotion and Mental State Recognition from Speech*, 2011(Article ID 838790). 16 pages (acceptance rate: 38 %, IF: 1.012 (2010))
- 305) Batliner, A., Steidl, S., Schuller, B., Seppi, D., Vogt, T., Wagner, J., Devillers, L., Vidrascu, L., Aharonson, V., Kessous, L., and Amir, N. (2011). Whodunnit – Searching for the Most Important Feature Types Signalling Emotion-Related User States in Speech. *Computer Speech and Language, Special Issue on Affective Speech in real-life interactions*, 25(1):4–28. (acceptance rate: 31 %, IF: 1.812 (2013))
- 306) Schuller, B., Vlasenko, B., Eyben, F., Wöllmer, M., Stuhlsatz, A., Wendemuth, A., and Rigoll, G. (2010h). Cross-Corpus Acoustic Emotion Recognition: Variances and Strategies. *IEEE Transactions on Affective Computing*, 1(2):119–131. (acceptance rate: 32 %, IF: 3.466 (2013))
- 307) Schuller, B., Hage, C., Schuller, D., and Rigoll, G. (2010d). “Mister D.J., Cheer Me Up!”: Musical and



- Textual Features for Automatic Mood Classification. *Journal of New Music Research*, 39(1):13–34. (IF: 0.755 (2010))
- 308) Schuller, B. (2010). On the acoustics of emotion in speech: Desperately seeking a standard. *Journal of the Acoustical Society of America*, 127(3):1995–1995. (IF: 1.644 (2010))
- 309) Schuller, B., Dorfner, J., and Rigoll, G. (2010b). Determination of Non-Prototypical Valence and Arousal in Popular Music: Features and Performances. *EURASIP Journal on Audio, Speech, and Music Processing, Special Issue on Scalable Audio-Content Analysis*, 2010(Article ID 735854). 19 pages, (acceptance rate: 33 %, IF: 0.709 (2011))
- 310) Steidl, S., Batliner, A., Seppi, D., and Schuller, B. (2010). On the Impact of Children’s Emotional Speech on Acoustic and Language Models. *EURASIP Journal on Audio, Speech, and Music Processing, Special Issue on Atypical Speech*, 2010(Article ID 783954). 14 pages (IF: 3.057 (2017))
- 311) Batliner, A., Seppi, D., Steidl, S., and Schuller, B. (2010b). Segmenting into adequate units for automatic recognition of emotion-related episodes: a speech-based approach. *Advances in Human Computer Interaction, Special Issue on Emotion-Aware Natural Interaction*, 2010(Article ID 782802). 15 pages
- 312) Eyben, F., Wöllmer, M., Graves, A., Schuller, B., Douglas-Cowie, E., and Cowie, R. (2010c). On-line Emotion Recognition in a 3-D Activation-Valence-Time Continuum using Acoustic and Linguistic Cues. *Journal on Multimodal User Interfaces, Special Issue on Real-Time Affect Analysis and Interpretation: Closing the Affective Loop in Virtual Agents and Robots*, 3(1-2):7–12. (IF: 1.140)
- 313) Can, S., Schuller, B., Kranzfelder, M., and Feussner, H. (2010). Emotional factors in speech based human-machine interaction in the operating room. *International Journal of Computer Assisted Radiology and Surgery*, 5(Supplement 1):188–189. (acceptance rate: 75 %, IF: 1.659 (2013))
- 314) Wöllmer, M., Eyben, F., Graves, A., Schuller, B., and Rigoll, G. (2010a). Bidirectional LSTM Networks for Context-Sensitive Keyword Detection in a Cognitive Virtual Agent Framework. *Cognitive Computation, Special Issue on Non-Linear and Non-Conventional Speech Processing*, 2(3):180–190. (IF: 4.287 (2018))
- 315) Eyben, F., Wöllmer, M., Poitschke, T., Schuller, B., Blaschke, C., Färber, B., and Nguyen-Thien, N. (2010d). Emotion on the Road – Necessity, Acceptance, and Feasibility of Affective Computing in the Car. *Advances in Human Computer Interaction, Special Issue on Emotion-Aware Natural Interaction*, 2010(Article ID 263593). 17 pages
- 316) Wöllmer, M., Schuller, B., Eyben, F., and Rigoll, G. (2010g). Combining Long Short-Term Memory and Dynamic Bayesian Networks for Incremental Emotion-Sensitive Artificial Listening. *IEEE Journal of Selected Topics in Signal Processing, Special Issue on Speech Processing for Natural Interaction with Intelligent Environments*, 4(5):867–881. (IF: 5.301 (2016))
- 317) Schuller, B., Müller, R., Eyben, F., Gast, J., Hörnler, B., Wöllmer, M., Rigoll, G., Höthker, A., and Konosu, H. (2009f). Being Bored? Recognising Natural Interest by Extensive Audiovisual Integration for Real-Life Application. *Image and Vision Computing, Special Issue on Visual and Multimodal Analysis of Human Spontaneous Behavior*, 27(12):1760–1774. (IF: 1.474 (2009))
- 318) Schuller, B., Wöllmer, M., Moosmayr, T., and Rigoll, G. (2009l). Recognition of Noisy Speech: A Comparative Survey of Robust Model Architecture and Feature Enhancement. *EURASIP Journal on Audio, Speech, and Music Processing*, 2009(Article ID 942617). 17 pages (IF: 3.057 (2017))
- 319) Wöllmer, M., Al-Hames, M., Eyben, F., Schuller, B., and Rigoll, G. (2009a). A Multidimensional Dynamic Time Warping Algorithm for Efficient Multimodal Fusion of Asynchronous Data Streams. *Neurocomputing*, 73(1–3):366–380. (IF: 1.440 (2009))
- 320) Schuller, B., Eyben, F., and Rigoll, G. (2008f). Tango or Waltz? – Putting Ballroom Dance Style into Tempo Detection. *EURASIP Journal on Audio, Speech, and Music Processing, Special Issue on Intelligent Audio, Speech, and Music Processing Applications*, 2008(Article ID 846135). 12 pages (IF: 3.057 (2017))
- 321) Nieschulz, R., Schuller, B., Geiger, M., and Neuss, R. (2002). Aspects of Efficient Usability Engineering. *Information Technology, Special Issue on Usability Engineering*, 44(1):23–30

### C) REFEREED CONFERENCE PROCEEDINGS

#### *Contributions to Conference Proceedings (628):*

- 322) Burkhardt, F., Reichel, U., Eyben, F., and Schuller, B. (2023). Going Retro: Astonishingly Simple Yet Effective Rule-Based Prosody Modelling for Speech Synthesis Simulating Emotion Dimensions. In *Proceedings 34. (International) Conference on Electronic Processing of Speech Signals (Elektronische Sprachsignalverarbeitung), ESSV*, Munich, Germany. 2 pages, to appear
- 323) Wang, Z., Bao, Z., Qian, K., Hu, B., Schuller, B., and Yamamoto, Y. (2023). Learning Optimal Time-Frequency Representations for Heart Sound: A Comparative Study. In *Proceedings of the 9. China Conference on Sound and Music Technology, Revised and Selected Papers from CSMT 2021*, volume 921 of *Lecture Notes in Electrical Engineering*, pages 93–104, Taiyuan, China. Shanghai Computer Music Association, Springer. Xi Shao and Kun Qian and Xin Wang and Kejun Zhang
- 324) Schuller, B. W., Batliner, A., Amiriparian, S., Bergler, C., Gerczuk, M., Holz, N., Larrouy-Maestri, P., Bayerl, S. P., Riedhammer, K., Mallol-Ragolta, A., Pateraki, M., Coppock, H., Kiskin, I., Sinka, M., and

- Roberts, S. (2022c). The ACM Multimedia 2022 Computational Paralinguistics Challenge: Vocalisations, Stuttering, Activity, & Mosquitos. In *Proceedings of the 30. ACM International Conference on Multimedia, MM 2022*, pages 7120–7124, Lisbon, Portugal. ACM, ACM
- 325) Akman, A., Schuller, B., and Wullenweber, A. (2022b). CoughLIME: Sonified Explanations for the Predictions of COVID-19 Cough Classifiers. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 1342–1345, Glasgow, UK. IEEE, IEEE
- 326) Amiriparian, S., Christ, L., König, A., Meßner, E.-M., Cowen, A., Cambria, E., and Schuller, B. W. (2022c). MuSe 2022 Challenge: Multimodal Humour, Emotional Reactions, and Stress. In *Proceedings of the 30. ACM International Conference on Multimedia, MM 2022*, pages 7389–7391, Lisbon, Portugal. ACM, ACM
- 327) Burkhardt, F., Wagner, J., Wierstorf, H., Eyben, F., and Schuller, B. W. (2022c). A Comparative Cross Language View On Acted Databases Portraying Basic Emotions Utilising Machine Learning. In *Proceedings 13th Language Resources and Evaluation Conference (LREC 2022)*, pages 1917–1924, Marseille, France. ELRA, ELRA
- 328) Burkhardt, F., Hacker, A., Reichel, U., Wierstorf, H., Eyben, F., and Schuller, B. W. (2022b). Nkululeko: A Tool For Rapid Speaker Characteristics Detection. In *Proceedings 13th Language Resources and Evaluation Conference (LREC 2022)*, pages 1925–1932, Marseille, France. ELRA, ELRA
- 329) Burkhardt, F., Eyben, F., and Schuller, B. W. (2022a). SyntAct: A Synthesised Database of Basic Emotions. In *Proceedings Dataset Creation for Lower-Resourced Languages (DCLRL 2022), Workshop at the 13th Language Resources and Evaluation Conference (LREC 2022)*, pages 1–9, Marseille, France. ELRA, ELRA
- 330) Chang, Y., Ren, Z., Nguyen, T. T., Nejd, W., and Schuller, B. W. (2022c). Example-based Explanations with Adversarial Attacks for Respiratory Sound Analysis. In *Proceedings INTERSPEECH 2022, 23. Annual Conference of the International Speech Communication Association*, pages 4003–4007, Incheon, South Korea. ISCA, ISCA. (acceptance rate: 50%)
- 331) Cheng, J., Liang, R., Xie, Y., Zhao, L., Schuller, B., Jia, J., and Peng, Y. (2022). Cross-Layer Similarity Knowledge Distillation for Speech Enhancement. In *Proceedings INTERSPEECH 2022, 23. Annual Conference of the International Speech Communication Association*, pages 926–930, Incheon, South Korea. ISCA, ISCA. (acceptance rate: 50%)
- 332) Christ, L., Amiriparian, S., Baird, A., Tzirakis, P., Kathan, A., Müller, N., Stappen, L., Meßner, E.-M., König, A., Cowen, A., Cambria, E., and Schuller, B. W. (2022a). The MuSe 2022 Multimodal Sentiment Analysis Challenge: Humor, Emotional Reactions, and Stress. In *Proceedings of the 3. International Multimodal Sentiment Analysis Workshop and Challenge (MuSe) co-located with the 30. ACM International Conference on Multimedia, MM 2022*, pages 5–14, Lisbon, Portugal. ACM, ACM
- 333) Gebhard, A., Triantafyllopoulos, A., Amiriparian, S., Ottl, S., Dieter, V., Gerczuk, M., Jaumann, M., Hildner, D., Schneeweiß, P., Rösel, I., Krauß, I., and Schuller, B. W. (2022b). Improving Exertion and Wellbeing Prediction in Outdoor Running Conditions using Audio-based Surface Recognition. In *Proceedings of the 5. International Workshop on Multimedia Content Analysis in Sports (MMSports) at the 30. ACM International Conference on Multimedia*, pages 19–27, Lisbon, Portugal. ACM, ACM
- 334) Gebhard, A., Amiriparian, S., Triantafyllopoulos, A., Kathan, A., Gerczuk, M., Ottl, S., Dieter, V., Jaumann, M., Hildner, D., Schneeweiß, P., Rösel, I., Krauß, I., and Schuller, B. W. (2022a). Towards Heart Rate Categorisation from Speech in Outdoor Running Conditions. In *Proceedings of the 10. IEEE International Conference on e-Health and Bioengineering, EHB 2022*, Iasi, Romania. IEEE, IEEE. 5 pages, to appear
- 335) Gerczuk, M., Triantafyllopoulos, A., Amiriparian, S., Kathan, A., Bauer, J., Berking, M., and Schuller, B. (2022c). Personalised Deep Learning for Monitoring Depressed Mood from Speech. In *Proceedings of the 10. IEEE International Conference on e-Health and Bioengineering, EHB 2022*, Iasi, Romania. IEEE, IEEE. 5 pages, to appear
- 336) Gerczuk, M., Amiriparian, S., Batliner, A., Triantafyllopoulos, A., Heyne, F., Klockow, M., Schuller, B. W., and Hummel, T. (2022a). The Influence of Pleasant and Unpleasant Odours on the Acoustics of Speech. In *Proceedings of the 10. IEEE International Conference on e-Health and Bioengineering, EHB 2022*, Iasi, Romania. IEEE, IEEE. 5 pages, Special Prize of Romanian Society of Biomedical Engineering, to appear
- 337) Gu, Z., Xu, X., Liu, S., and Schuller, B. (2022). Zero-Shot Audio Classification Using Synthesised Classifiers and Pre-Trained Models. In *Proceedings of the 2022 15. IEEE EMBS Regional Conference on Image and Signal Processing, BioMedical Engineering and Informatics, CISP-BMEI 2022*, pages 1–6, Beijing, China. IEEE, IEEE
- 338) He, X., Triantafyllopoulos, A., Kathan, A., Milling, M., Yan, T., Rajamani, S. T., Küster, L., Harrer, M., Heber, E., Grossmann, I., Ebert, D. D., and Schuller, B. (2022a). Depression Diagnosis and Forecast based on Mobile Phone Sensor Data. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 4679–4682, Glasgow, UK. IEEE, IEEE
- 339) Hecker, P., Kappattanavar, A., Schmitt, M., Moon-taha, S., Wagner, J., Eyben, F., Schuller, B., and

- Arnrich, B. (2022a). Quantifying Cognitive Load from Voice using Transformer-Based Models and a Cross-Dataset Evaluation. In *Proceedings International Conference on Machine Learning and Applications, ICMLA 2022*, Nassau, The Bahamas. IEEE, IEEE. 8 pages, to appear
- 340) Jing, X., Liu, S., Parada-Cabaleiro, E., Triantafyllopoulos, A., Song, M., Yang, Z., and Schuller, B. (2022a). A Temporal-oriented Broadcast ResNet for COVID-19 Detection. In *Proceedings of the IEEE International Conference on Biomedical and Health Informatics (BHI)*, Ioannina, Greece. IEEE, IEEE. 5 pages
- 341) Karas, V., Tellamekala, M. K., Mallol-Ragolta, A., Valstar, M., and Schuller, B. (2022a). Time-Continuous Audiovisual Fusion with Recurrence vs Attention for In-The-Wild Affect Recognition. In *Proceedings The 3. Workshop and Competition on Affective Behavior Analysis in-the-wild (ABAW), held in conjunction with the IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 2381–2390, New Orleans, LA. IEEE/CVF, IEEE
- 342) Kathan, A., Amiriparian, S., Christ, L., Triantafyllopoulos, A., Müller, N., König, A., and Schuller, B. W. (2022b). A Personalised Approach to Audiovisual Humour Recognition and its Individual-level Fairness. In *Proceedings of the 3. International Multimodal Sentiment Analysis Workshop and Challenge (MuSe) co-located with the 30. ACM International Conference on Multimedia, MM 2022*, pages 29–36, Lisbon, Portugal. ACM, ACM. selected for the Association for Computing Machinery (ACM) Showcase on Kudos
- 343) Kathan, A., Triantafyllopoulos, A., Amiriparian, S., Gebhard, A., Ottl, S., Gerczuk, M., Jaumann, M., Hildner, D., Dieter, V., Schneeweiß, P., Rösel, I., Krauß, I., and Schuller, B. (2022d). Investigating individual- and group-level model adaptation for self-reported runner exertion prediction from biomechanics. In *Proceedings of the 10. IEEE International Conference on e-Health and Bioengineering, EHB 2022*, Iasi, Romania. IEEE, IEEE. 5 pages, to appear
- 344) Kathan, A., Triantafyllopoulos, A., He, X., Milling, M., Yan, T., Rajamani, S. T., Küster, L., Harrer, M., Heber, E., Grossmann, I., Ebert, D. D., and Schuller, B. (2022e). Journaling Data for Daily PHQ-2 Depression Prediction and Forecasting. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 2627–2630, Glasgow, UK. IEEE, IEEE
- 345) Li, Z., Chang, Y., and Schuller, B. (2022b). CNN-Based Heart Sound Classification with an Imbalance-Compensating Weighted Loss Function. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 4934–4937, Glasgow, UK. IEEE, IEEE
- 346) Li, C., Sheng, Y., Wang, H., Niu, M., Jing, P., Zhao, Z., and Schuller, B. (2022a). EEG Emotion Recognition Based on Self-attention Dynamic Graph Neural Networks. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 292–296, Glasgow, UK. IEEE, IEEE
- 347) Liu, R., Sisman, B., Schuller, B., Gao, G., and Li, H. (2022a). Accurate Emotion Strength Assessment for Seen and Unseen Speech Based on Data-Driven Deep Learning. In *Proceedings INTERSPEECH 2022, 23. Annual Conference of the International Speech Communication Association*, pages 5493–5497, Incheon, South Korea. ISCA, ISCA. (acceptance rate: 50%)
- 348) Mallol-Ragolta, A., Liu, S., and Schuller, B. (2022b). COVID-19 Detection Exploiting Self-Supervised Learning Representations of Respiratory Sounds. In *Proceedings of the IEEE International Conference on Biomedical and Health Informatics (BHI)*, Ioannina, Greece. IEEE, IEEE. 4 pages
- 349) Mallol-Ragolta, A., Cuesta, H., Gomez, E., and Schuller, B. (2022a). Multi-Type Outer Product-Based Fusion of Respiratory Sounds for Detecting COVID-19. In *Proceedings INTERSPEECH 2022, 23. Annual Conference of the International Speech Communication Association*, pages 2163–2167, Incheon, South Korea. ISCA, ISCA. (acceptance rate: 50%)
- 350) Mallol-Ragolta, A., Pokorny, F., Bartl-Pokorny, K., Semertzidou, A., and Schuller, B. (2022d). Triplet Loss-Based Models for COVID-19 Detection from Vocal Sounds. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 998–1001, Glasgow, UK. IEEE, IEEE
- 351) Mallol-Ragolta, A., Maniadakis, M., Papadopoulos, G., and Schuller, B. (2022c). Time Series Representation using TS2Vec on Smartwatch Sensor Data for Fatigue Estimation. In *Proceedings 13th International Conference on Applied Human Factors and Ergonomics, AHFE*, volume 52, pages 123–129, New York City, NY. AHFE Open Access
- 352) Milling, M., Aslan, I., Berghofer, M., Mallol-Ragolta, A., Kunwar, U., and Schuller, B. W. (2022a). Online Personalisation of Deep Mobile Activity Recognisers. In *Proceedings of the 7. International Workshop on Sensor-Based Activity Recognition and Artificial Intelligence, iWOAR*, pages 1–7, Rostock, Germany. ACM, ACM
- 353) Schoburg Carrillo de Mira, R., Haliassos, A., Petridis, S., Schuller, B. W., and Pantic, M. (2022). SVTS: Scalable Video-to-Speech Synthesis. In *Proceedings INTERSPEECH 2022, 23. Annual Conference of the International Speech Communication Association*, pages 1836–1840, Incheon, South Korea. ISCA, ISCA. (acceptance rate: 50%)
- 354) Müller, N., König, A. S., Stöcklein, B., Bong, D., Schuller, B., and Amiriparian, S. (2022). Executive Humor: Towards a Multi-Modal Automated Measure-

- ment. In *Proceedings SMS 42. Annual Conference*, London, UK. Strategic Management Society, SMS, SMS. 7 pages, to appear
- 355) Pandit, V. and Schuller, B. (2022). The Many-to-Many Mappings Between the Concordance Correlation Coefficient, the Mean Square Error and the Correlation Coefficient. In *Proceedings of the 20. International Conference on Numerical Analysis and Applied Mathematics, ICNAAM 2022*, Crete, Greece. European Society of Computational Methods in Sciences and Engineering (ESCMCE). 4 pages, to appear
- 356) Qian, K., Schultz, T., and Schuller, B. (2022c). An Overview of the First ICASSP Special Session on Computer Audition for Healthcare. In *Proceedings 47. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2022*, pages 9002–9006, Singapore. IEEE, IEEE. (acceptance rate: 45 %)
- 357) Qiu, W., Qian, K., Wang, Z., Chang, Y., Bao, Z., Hu, B., Schuller, B., and Yamamoto, Y. (2022). A Federated Learning Paradigm for Heart Sound Classification. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 1045–1048, Glasgow, UK. IEEE, IEEE
- 358) Rajapakshe, T., Rana, R., Khalifa, S., Liu, J., and Schuller, B. (2022). A Novel Policy for Pre-trained Deep Reinforcement Learning for Speech Emotion Recognition. In *Proceedings 20. Australasian Symposium on Parallel and Distributed Computing (AusPDC 2022) held in conjunction with Australasian Computer Science Week (ACSW 2022)*, pages 96–105, Brisbane, Australia. ACM, ACM. best paper award
- 359) Rajamani, S. T., Rajamani, K., Kathan, A., and Schuller, B. (2022a). Novel insights of induced sparsity on Multi-Time Attention Networks. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 2615–2618, Glasgow, UK. IEEE, IEEE
- 360) Rajamani, S. T., Rajamani, K., Rani, P., Barick, R., Sheshadri, R. M., Aithal, S. V., Ramalingam, R. E., Gowda, S. D., and Schuller, B. (2022b). Novel no-reference multi-dimensional perceptual similarity metric. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 2045–2048, Glasgow, UK. IEEE, IEEE
- 361) Song, M., Parada-Cabaleiro, E., Yang, Z., Qian, K., Schuller, B. W., and Yamamoto, Y. (2022a). Parallelising 2D-CNNs and Transformers: A Cognitive-based approach for Automatic Recognition of Learners’ English Proficiency. In *Proceedings 5. International Conference on Intelligent Human Systems Integration, IHSI 2022*, Venice, Italy. Springer. 8 pages, to appear
- 362) Tan, Y., Wang, Z., Qian, K., Hu, B., Zhao, S., Schuller, B. W., and Yamamoto, Y. (2022). Heart Sound Classification based on Fractional Fourier Transformation Entropy. In *Proceedings 4. Global Conference on Life Sciences and Technologies, LifeTech 2022*, pages 588–589, Osaka, Japan. IEEE, IEEE
- 363) Triantafyllopoulos, A., Fendler, M., Batliner, A., Gerczuk, M., Amiriparian, S., Berghaus, T., and Schuller, B. W. (2022a). Distinguishing between pre- and post-treatment in the speech of patients with chronic obstructive pulmonary disease. In *Proceedings INTERSPEECH 2022, 23. Annual Conference of the International Speech Communication Association*, pages 3623–3627, Incheon, South Korea. ISCA, ISCA. (acceptance rate: 50 %)
- 364) Triantafyllopoulos, A., Ottl, S., Gebhard, A., Rituerto-Gonzalez, E., Jaumann, M., Hüttner, S., Dieter, V., Schneeweiss, P., Krauss, I., Gerczuk, M., Amiriparian, S., and Schuller, B. (2022c). Fatigue Prediction in Outdoor Running Conditions using Audio Data. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 2623–2626, Glasgow, UK. IEEE, IEEE
- 365) Triantafyllopoulos, A., Zänkert, S., Baird, A., Konzok, J., Kudielka, B., and Schuller, B. (2022j). Insights on Modelling Physiological, Appraisal, and Affective Indicators of Stress using Audio Features. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 2619–2622, Glasgow, UK. IEEE, IEEE
- 366) Triantafyllopoulos, A., Wagner, J., Wierstorf, H., Schmitt, M., Reichel, U., Eyben, F., Burkhardt, F., and Schuller, B. W. (2022h). Probing speech emotion recognition transformers for linguistic knowledge. In *Proceedings INTERSPEECH 2022, 23. Annual Conference of the International Speech Communication Association*, pages 146–150, Incheon, South Korea. ISCA, ISCA. (acceptance rate: 50 %)
- 367) Varlamis, I., Mallol-Ragolta, A., Lourakis, M., Pateraki, M., Athanassiou, G., Maniadakis, M., Papoutsakis, K., Papadopoulos, T., Loutsetis, E., Wiest, T., Cummins, N., Schuller, B., Karolos, I.-A., Pikridas, C., Patias, P., Vantolas, S., Kallipolitis, L., Werner, F., Ascolese, A., and Nitti, V. (2022). SustAGE 1.0 – First Prototype, Use Cases, and Usability Evaluation. In *Proceedings 7. International Conference on Human Interaction & Emerging Technologies: Future Applications, IHET-AI*, Advances in Intelligent Systems and Computing, Lausanne, Switzerland. Springer. to appear
- 368) Woszczyk, D., Hedlikova, A., Akman, A., Demetriou, S., and Schuller, B. W. (2022a). Data Augmentation for Dementia Detection in Spoken Language. In *Proceedings INTERSPEECH 2022, 23. Annual Conference of the International Speech Communication Association*, pages 2858–2862, Incheon, South Korea. ISCA, ISCA. (acceptance rate: 50 %)
- 369) Yan, T., Meng, H., Liu, S., Parada-Cabaleiro, E.,

- Ren, Z., and Schuller, B. W. (2022a). Convolutional Transformer with Adaptive Position Embedding for COVID-19 Detection from Cough Sounds. In *Proceedings 47. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2022*, pages 9092–9096, Singapore. IEEE, IEEE. (acceptance rate: 45 %)
- 370) Yang, Z., Jing, X., Triantafyllopoulos, A., Song, M., Aslan, I., and Schuller, B. W. (2022a). An Overview & Analysis of Sequence-to-Sequence Emotional Voice Conversion. In *Proceedings INTERSPEECH 2022, 23. Annual Conference of the International Speech Communication Association*, pages 4915–4919, Incheon, South Korea. ISCA, ISCA. (acceptance rate: 50 %)
- 371) Yu, S., Ding, Y., Qian, K., Hu, B., Li, W., and Schuller, B. (2022). A glance-and-gaze network for respiratory sound classification. In *Proceedings 47. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2022*, pages 9007–9011, Singapore. IEEE, IEEE. (acceptance rate: 45 %)
- 372) Zhao, Z., Tan, Y., Sun, M., Chang, Y., Qian, K., Hu, B., Schuller, B. W., and Yamamoto, Y. (2022c). A Multi-feature Sets Fusion Strategy with Similar Samples Removal for Snore Sound Classification. In *Proceedings 17. National Conference on Man-Machine Speech Communication, NCMMS, Hefei, China*. 14 pages, to appear
- 373) Zhu, L., Qian, K., Wang, Z., Hu, B., Yamamoto, Y., and Schuller, B. (2022). Heart Sound Classification based on Residual Shrinkage Networks. In *Proceedings of the 44. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2022*, pages 4469–4472, Glasgow, UK. IEEE, IEEE
- 374) Schuller, B. W., Batliner, A., Bergler, C., Mascolo, C., Han, J., Lefter, I., Kaya, H., Amiriparian, S., Baird, A., Stappen, L., Ottl, S., Gerczuk, M., Tzirakis, P., Brown, C., Chauhan, J., Grammenos, A., Hasthanasombat, A., Spathis, D., Xia, T., Cicuta, P., Leon J. M. R., Zwerts, J., Treep, J., and Kaandorp, C. (2021c). The INTERSPEECH 2021 Computational Paralinguistics Challenge: COVID-19 Cough, COVID-19 Speech, Escalation & Primates. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the International Speech Communication Association*, pages 431–435, Brno, Czechia. ISCA, ISCA. (acceptance rate: 49 %)
- 375) Schuller, B., Virtanen, T., Riviero, M., Rizos, G., Han, J., Mesaros, A., and Drosos, K. (2021b). Towards Sonification in Multimodal and User-friendly Explainable Artificial Intelligence. In *Proceedings 23. ACM International Conference on Multimodal Interaction, ICMI*, pages 788–792, Montreal, Canada. ACM, ACM. 2. Place Blue Sky Paper
- 376) Amiriparian, S. and Schuller, B. (2021). AI Hears Your Health: Computer Audition for Health Monitoring. In Pissaloux, E., Papadopoulos, G. A., Achilleos, A., and Velázquez, R., editors, *ICT for Health, Accessibility and Wellbeing, First International Conference, IC-IHAW, Revised Selected Papers*, volume 1538 of *Lecture Notes in Communications in Computer and Information Science*, pages 227–233, Larnaca, Cyprus. Springer. invited contribution
- 377) Aspandi, D., Sukno, F., Binefa, X., and Schuller, B. (2021a). An Enhanced Adversarial Network with Combined Latent Features for Spatio-Temporal Facial Affect Estimation in the Wild. In *Proceedings of the 16. International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, VISIGRAPP 2021*, volume 4, pages 172–181, online. INSTICC, SCITEPRESS
- 378) Baird, A., Stappen, L., Christ, L., Schumann, L., Messner, E.-M., and Schuller, B. W. (2021c). A Physiologically-Adapted Gold Standard for Arousal during Stress. In *Proceedings of the 2. Multimodal Sentiment Analysis Challenge (MuSe) co-located with the 29. ACM International Conference on Multimedia, MM 2021*, pages 69–73, Chengdu, China. ACM, ACM
- 379) Baird, A., Mertes, S., Milling, M., Stappen, L., Wiest, T., André, E., and Schuller, B. (2021b). A Prototypical Network Approach for Evaluating Generated Emotional Speech. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the International Speech Communication Association*, pages 3161–3165, Brno, Czechia. ISCA, ISCA. (acceptance rate: 49 %)
- 380) Baird, A., Amiriparian, S., Milling, M., and Schuller, B. (2021a). Emotion Recognition in Public Speaking Scenarios Utilising an LSTM-RNN Approach with Attention. In *Proceedings IEEE Spoken Language Technology Workshop, SLT*, virtual. IEEE, IEEE. (acceptance rate: 46.9 %)
- 381) Bajovic, D., Bakhtiarnia, A., Bravos, G., Brutti, A., Burkhardt, F., Cauchi, D., Chazapis, A., Cianco, C., Dall’Asen, N., Delic, V., Dimou, C., Djokic, D., Escobar-Molero, A., Esterle, L., Eyben, F., Farella, E., Festi, T., Geromitsos, A., Giakoumakis, G., Hatzivasilis, G., Ioannidis, S., Iosifidis, A., Kallipolitou, T., Kalogiannis, G., Kiouisi, A., Kopanaki, D., Marazakis, M., Markopoulou, S., Muscat, A., Paissan, F., Lobo, T. P., Pavlovic, D., Raptis, T. P., Ricci, E., Saez, B., Sahito, F., Scerri, K., Schuller, B., Simic, N., Spanoudakis, G., Tomasi, A., Triantafyllopoulos, A., Valerio, L., Villazán, J., Wang, Y., Xuereb, A., and Zammit, J. (2021). MARVEL: Multimodal Extreme Scale Data Analytics for Smart Cities Environments. In *Proceedings Fourth International Balkan Conference on Communications and Networking, Balkan-Com*, pages 143–147, Novi Sad, Serbia. IEEE, IEEE
- 382) Burkhardt, F., Brückl, M., and Schuller, B. (2021). Age Classification: Comparison of Human vs Machine Performance in Prompted and Spontaneous Speech. In *Proceedings 32. (International) Conference on Electronic Processing of Speech Signals (Elektronische Sprachsignalverarbeitung), ESSV*, Studentexte zur

- Sprachkommunikation, Berlin, Germany. TUDpress. 8 pages
- 383) Chang, Y., Ren, Z., and Schuller, B. (2021). Transformer-based CNNs: Mining Temporal Context Information for Multi-sound COVID-19 Diagnosis. In *Proceedings of the 43. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2021*, pages 2335–2338, virtual. IEEE, IEEE
- 384) Deshpande, G. and Schuller, B. (2021a). COVID-19 Biomarkers in Speech: On Source and Filter Components. In *Proceedings of the 43. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2021*, pages 800–803, virtual. IEEE, IEEE
- 385) Deshpande, G. and Schuller, B. (2021b). The DiCOVA 2021 Challenge – An Encoder-Decoder Approach for COVID-19 Recognition from Coughing Audio. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the International Speech Communication Association*, pages 931–935, Brno, Czechia. ISCA, ISCA. (acceptance rate: 49%)
- 386) Dineley, J., Lavelle, G., Leightley, D., Matcham, F., Siddi, S., Penarrubia-Maria, M. T., White, K., Ivan, A., Oetzmann, C., Simblett, S., Dawe-Lane, E., Bruce, S., Stahl, D., Haro, J. M., Wykes, T., Narayan, V., Hotopf, M., Schuller, B., Cummins, N., and The RADAR-CNS Consortium (2021a). Remote smartphone-based speech collection: acceptance and barriers in individuals with major depressive disorder. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the International Speech Communication Association*, pages 631–635, Brno, Czechia. ISCA, ISCA. (acceptance rate: 49%)
- 387) Godwin, T., Rizos, G., Baird, A., Al Futaisi, N. D., Brisse, V., and Schuller, B. W. (2021). Evaluating Deep Music Generation Methods Using Data Augmentation. In *Proceedings IEEE 23. International Workshop on Multimedia Signal Processing, MMSP 2021*, pages 1–6, Tampere, Finland. IEEE, IEEE
- 388) He, X., Chen, J., Rizos, G., and Schuller, B. (2021a). An Improved StarGAN for Emotional Voice Conversion: Enhancing Voice Quality and Data Augmentation. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the International Speech Communication Association*, pages 821–825, Brno, Czechia. ISCA, ISCA. (acceptance rate: 49%)
- 389) Hellmann, F., Ren, Z., André, E., and Schuller, B. (2021). Deformable Dilated Faster R-CNN for Universal Lesion Detection in CT Images. In *Proceedings of the 43. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2021*, pages 2896–2902, virtual. IEEE, IEEE
- 390) Hecker, P., Pokorný, F., Bartl-Pokorný, K., Reichel, U., Ren, Z., Hantke, S., Eyben, F., Schuller, D., Arnrich, B., and Schuller, B. (2021). Speaking Corona? Human and Machine Recognition of COVID-19 from Voice. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the International Speech Communication Association*, pages 1029–1033, Brno, Czechia. ISCA, ISCA. (acceptance rate: 49%)
- 391) Huang, D.-Y., Schuller, B., Tao, J., Xie, L., and Yang, J. (2021). ASMMC21: The 6. International Workshop on Affective Social Multimedia Computing. In *Proceedings 23. ACM International Conference on Multimodal Interaction, ICMI*, pages 864–867, Montreal, Canada. ACM, ACM
- 392) Karas, V. and Schuller, B. (2021b). Recognising Covid-19 from Coughing using Ensembles of SVMs and LSTMs with Handcrafted and Deep Audio Features. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the International Speech Communication Association*, pages 911–915, Brno, Czechia. ISCA, ISCA. (acceptance rate: 49%)
- 393) Kim, J., Liu, C., Calvo, R. A., McCabe, K., Taylor, S. C. R., Schuller, B. W., and Kaihang, W. (2021). Comparison of Automatic Speech Recognition Systems. In Stoyanchev, S., Ultes, S., and Li, H., editors, *Conversational AI for Natural Human-Centric Interaction – Proceedings of the 12th International Workshop on Spoken Dialogue Systems, IWSDS 2021*, volume 943 of *Lecture Notes on Computer Science*, pages 123–131, Singapore, Singapore. Springer
- 394) Koike, T., Qian, K., Schuller, B., and Yamamoto, Y. (2021). Transferring Cross-Corpus Knowledge: An Investigation on Data Augmentation for Heart Sound Classification. In *Proceedings of the 43. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2021*, pages 1976–1979, virtual. IEEE, IEEE
- 395) Li, C., Chen, B., Zhao, Z., Cummins, N., and Schuller, B. (2021a). Hierarchical Attention-based Temporal Convolutional Networks for EEG-based Emotion Recognition. In *Proceedings 46. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2021*, pages 1240–1244, Toronto, Canada. IEEE, IEEE. (acceptance rate: 48%)
- 396) Liu, S., Mallol-Ragolta, A., and Schuller, B. (2021c). COVID-19 Detection with a Novel Multi-Type Deep Fusion Method using Breathing and Coughing Information. In *Proceedings of the 43. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2021*, pages 1840–1843, virtual. IEEE, IEEE
- 397) Ma, P., Schonburg Carrillo de Mira, R., Petridis, S., Schuller, B., and Pantic, M. (2021a). LiRA: Learning Visual Speech Representations from Audio through Self-supervision. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the International Speech Communication Association*, pages 3011–3015, Brno, Czechia. ISCA, ISCA. (acceptance rate: 49%)
- 398) Mallol-Ragolta, A., Cuesta, H., Gómez, E., and Schuller, B. (2021a). Cough-based COVID-19 Detection with Contextual Attention Convolutional Neural Networks and Gender Information. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the In-*

- ternational Speech Communication Association*, pages 941–945, Brno, Czechia. ISCA, ISCA. (acceptance rate: 49%)
- 399) Mallol-Ragolta, A., Semertzidou, A., Pateraki, M., and Schuller, B. (2021d). harAGE: A Novel Multimodal Smartwatch-based Dataset for Human Activity Recognition. In *Proceedings 16. IEEE International Conference on Automatic Face & Gesture Recognition, FG 2021*, pages 1–7, Jodhpur, India. IEEE, IEEE
- 400) Mallol-Ragolta, A., Liu, S., and Schuller, B. W. (2021c). The Filtering Effect of Face Masks in their Detection from Speech. In *Proceedings of the 43. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2021*, pages 2079–2082, virtual. IEEE, IEEE
- 401) Nessiem, M. A., Mohamed, M. M., Coppock, H., Gaskell, A., and Schuller, B. W. (2021b). Detecting COVID-19 from Breathing and Coughing Sounds using Deep Neural Networks. In *Proceedings of the 34. IEEE International Symposium on Computer-Based Medical Systems, CBMS 2021*, pages 183–188, online. IEEE, IEEE. best student paper award
- 402) Parada-Cabaleiro, E., Schmitt, M., Batliner, A., Schuller, B., and Schedl, M. (2021b). Automatic Recognition of Word-Painting in Renaissance Music: Feature Evaluation and Baseline Results. In *Proceedings 22. International Society for Music Information Retrieval Conference, ISMIR 2021*, online. ISMIR, ISMIR. (acceptance rate: 40%)
- 403) Purucker, P., Schmid, J., Höß, A., and Schuller, B. W. (2021). System Requirements Specification for Unmanned Aerial Vehicle (UAV) to Server Communication. In *Proceedings International Conference on Unmanned Aircraft Systems, ICUAS 2021*, pages 1499–1508, Athens, Greece. IEEE, IEEE
- 404) Qian, K., Schuller, B. W., and Yamamoto, Y. (2021e). Recent Advances in Computer Audition for Diagnosing COVID-19: An Overview. In *Proceedings 3. Global Conference on Life Sciences and Technologies, LifeTech 2021*, pages 181–182, Kyoto, Japan. IEEE, IEEE
- 405) Qian, K., Koike, T., Tamada, K., Takumi, T., Schuller, B., and Yamamoto, Y. (2021b). Sensing the Sounds of Silence: A Pilot Study on the Detection of Model Mice of Autism Spectrum Disorder from Ultrasonic Vocalisations. In *Proceedings of the 43. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2021*, pages 68–71, virtual. IEEE, IEEE
- 406) Rajamani, S. T., Rajamani, K., and Schuller, B. W. (2021a). Towards an Efficient Deep Learning Model for Emotion and Theme Recognition in Music. In *Proceedings IEEE 23. International Workshop on Multimedia Signal Processing, MMSP 2021*, pages 1–5, Tampere, Finland. IEEE, IEEE
- 407) Rizos, G., Lawson, J., Han, Z., Butler, D., Rosindell, J., Mikolajczyk, K., Banks-Leite, C., and Schuller, B. (2021). Multi-Attentive Detection of the Spider Monkey Whinny in the (Actual) Wild. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the International Speech Communication Association*, pages 471–475, Brno, Czechia. ISCA, ISCA. awarded a student travel grant (acceptance rate: 49%)
- 408) Stappen, L., Schumann, L., Batliner, A., and Schuller, B. (2021i). Embracing and Exploiting Annotator Emotional Subjectivity: An Affective Rater Ensemble Model. In *Proceedings 9. International Conference on Affective Computing and Intelligent Interaction Workshops and Demos (ACIIW)*, pages 1–8, Nara, Japan. AAC, IEEE
- 409) Stappen, L., Schuller, B., Messner, E. M., Cambria, E., and Zhao, G. (2021h). MuSe 2021 Challenge: Multimodal Emotion, Sentiment, Physiological-Emotion, and Stress Detection. In *Proceedings of the 29. ACM International Conference on Multimedia, MM 2021*, pages 5706–5707, Chengdu, China. ACM, ACM
- 410) Stappen, L., Schumann, L., Sertolli, B., Baird, A., Weigel, B., Cambria, E., and Schuller, B. W. (2021j). MuSe-Toolbox: The Multimodal Sentiment Analysis Continuous Annotation Fusion and Discrete Class Transformation Toolbox. In *Proceedings of the 2. Multimodal Sentiment Analysis Challenge (MuSe) co-located with the 29. ACM International Conference on Multimedia, MM 2021*, pages 75–82, Chengdu, China. ACM, ACM
- 411) Stappen, L., Baird, A., Christ, L., Schumann, L., Sertolli, B., Messner, E.-M., Cambria, E., Zhao, G., and Schuller, B. W. (2021b). The MuSe 2021 Multimodal Sentiment Analysis Challenge: Sentiment, Emotion, Physiological-Emotion, and Stress. In *Proceedings of the 2. Multimodal Sentiment Analysis Challenge (MuSe) co-located with the 29. ACM International Conference on Multimedia, MM 2021*, pages 5–14, Chengdu, China. ACM, ACM
- 412) Thies, J., Stappen, L., Hagerer, G., Schuller, B., and Groh, G. (2021). GraphTMT: Unsupervised Graph-based Topic Modeling from Video Transcripts. In *Proceedings IEEE International Conference on Multimedia Big Data, BigMM*, pages 1–8, Taichung, Taiwan. IEEE, IEEE. (acceptance rate oral: 23%)
- 413) Rajamani, S. T., Tirunellai Rajamani, K., Mallol-Ragolta, A., Liu, S., and Schuller, B. (2021b). A Novel Attention-based Gated Recurrent Unit and its Efficacy in Speech Emotion Recognition. In *Proceedings 46. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2021*, pages 6294–6298, Toronto, Canada. IEEE, IEEE. (acceptance rate: 48%)
- 414) Triantafyllopoulos, A., Liu, S., and Schuller, B. (2021a). Deep Speaker Conditioning for Speech Emotion Recognition. In *Proceedings 22. IEEE International Conference on Multimedia and Expo, ICME 2021*, pages 1–6, Shenzhen, China. IEEE, IEEE. (acceptance rate: 30%)
- 415) Triantafyllopoulos, A., Milling, M., Drossos, K., and Schuller, B. W. (2021b). Fairness and Underspecifi-

- cation in Acoustic Scene Classification: The Case for Disaggregated Evaluations. In *Proceedings of The 6. Workshop on Detection and Classification of Acoustic Scenes and Events, DCASE 2021*, pages 70–74, online. IEEE
- 416) Triantafyllopoulos, A. and Schuller, B. (2021). The Role of Task and Acoustic Similarity in Audio Transfer Learning: Insights from the Speech Emotion Case. In *Proceedings 46. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2021*, pages 7268–7272, Toronto, Canada. IEEE, IEEE. (acceptance rate: 48%)
- 417) Tzirakis, P., Nguyen, A., Zafeiriou, S., and Schuller, B. (2021c). Speech Emotion Recognition using Semantic Information. In *Proceedings 46. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2021*, pages 6279–6283, Toronto, Canada. IEEE, IEEE. (acceptance rate: 48%)
- 418) Yan, T., Meng, H., Cabaleiro, E., Liu, S., Song, M., and Schuller, B. (2021). Coughing-based Recognition of Covid-19 with Spatial Attentive ConvLSTM Recurrent Neural Networks. In *Proceedings INTERSPEECH 2021, 22. Annual Conference of the International Speech Communication Association*, pages 4154–4158, Brno, Czechia. ISCA, ISCA. (acceptance rate: 49%)
- 419) Ye, Z. and Schuller, B. (2021a). Deep Learning Post-Earnings-Announcement Drift. In *Proceedings 34. International Joint Conference on Neural Networks (IJCNN)*, pages 1–7, online. INNS/IEEE, IEEE
- 420) Zhang, R., Shi, Y., Schuller, B., André, E., Oviatt, S., Quigley, A., Marquardt, N., Aslan, I., and Ju, R. (2021b). User Experience for Multi-Device Ecosystems: Challenges and Opportunities. In *Proceedings Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems, CHI*, pages 1–5, Yokohama, Japan. ACM, ACM
- 421) Schuller, B. W., Batliner, A., Bergler, C., Messner, E.-M., Hamilton, A., Amiriparian, S., Baird, A., Rizos, G., Schmitt, M., Stappen, L., Baumeister, H., MacIntyre, A. D., and Hantke, S. (2020a). The INTERSPEECH 2020 Computational Paralinguistics Challenge: Elderly Emotion, Breathing & Masks. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 2042–2046, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 422) Albes, M., Ren, Z., Schuller, B., and Cummins, N. (2020). Squeeze for Sneeze: Compact Neural Networks for Cold and Flu Recognition. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 4546–4550, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 423) Amiriparian, S., Winokurow, P., Karas, V., Ottl, S., Gerczuk, M., and Schuller, B. W. (2020e). Un-supervised Representation Learning With Attention and Sequence to Sequence Autoencoders to Predict Sleepiness From Speech. In *Proceedings of the 1. Multimodal Sentiment in Real-life Media Challenge and Workshop (MuSe) co-located with the 28. ACM International Conference on Multimedia, MM 2020*, pages 11–17, Seattle, WA. ACM, ACM
- 424) Aspandi, D., Mallol-Ragolta, A., Schuller, B., and Binefa, X. (2020b). Latent-Based Adversarial Neural Networks for Facial Affect Estimations. In *Proceedings 15. IEEE International Conference on Automatic Face & Gesture Recognition, FG 2020*, pages 348–352, Buenos Aires, Argentina. IEEE, IEEE
- 425) Baird, A., Cummins, N., Schnieder, S., Krajewski, J., and Schuller, B. (2020a). An Evaluation of the Effect of Anxiety on Speech – Computational Prediction of Anxiety from Sustained Vowels. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 4951–4955, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 426) Baird, A., Song, M., and Schuller, B. (2020b). Interaction with the Soundscape – Exploring An Emotional Audio Generation Approach for Improved Individual Wellbeing. In Degen, H. and Reinerman-Jones, L., editors, *Artificial Intelligence in HCI – First International Conference, AI-HCI 2020, Held as Part of the 22. HCI International Conference, HCII 2020, Copenhagen, Denmark, July 19–24, 2020, Proceedings*, volume 12217 of *Lecture Notes in Computer Science*, pages 229–242. Springer
- 427) Botelho, C., Diener, L., Küster, D., Scheck, K., Amiriparian, S., Schuller, B., Schultz, T., Abad, A., and Trancoso, I. (2020). Toward Silent Paralinguistics: Speech-to-EMG –Retrieving Articulatory Muscle Activity from Speech. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 354–358, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 428) Cummins, N., Pan, Y., Ren, Z., Fritsch, J., Nalanthighal, V. S., Christensen, H., Blackburn, D., Schuller, B., Doss, M. M., Strik, H., and Harma, A. (2020b). A Comparison of Acoustic and Linguistics Methodologies for Alzheimer’s Dementia Recognition. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 2182–2186, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 429) Deshpande, G., Patel, S., Chanda, S., Patil, P., Agrawal, V., and Schuller, B. (2020). Laughter as a Controller in a Stress Buster Game. In *Proceedings 14. EAI International Conference on Pervasive Computing Technologies for Healthcare, EAI Pervasive Health*, pages 316–324, Atlanta, GA. European Alliance for Innovation, ACM
- 430) Diener, L., Amiriparian, S., Botelho, C., Scheck, K., Küster, D., Trancoso, I., Schuller, B., and Schultz, T. (2020). Towards Silent Paralinguistics: Deriving Speaking Mode and Speaker ID from Electromyo-



- graphic Signals. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 3117–3121, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 431) Han, J., Qian, K., Song, M., Yang, Z., Ren, Z., Liu, S., Liu, J., Zheng, H., Ji, W., Koike, T., Li, X., Zhang, Z., Yamamoto, Y., and Schuller, B. (2020a). An Early Study on Intelligent Analysis of Speech under COVID-19: Severity, Sleep Quality, Fatigue, and Anxiety. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 4946–4950, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 432) Han, W., Jiang, T., Li, Y., Schuller, B., and Ruan, H. (2020c). Ordinal Learning for Emotion Recognition in Customer Service Calls. In *Proceedings 45. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2020*, pages 6494–6498, Barcelona, Spain. IEEE, IEEE. (acceptance rate: 47%)
- 433) Koike, T., Qian, K., Kong, Q., Plumbley, M. D., Schuller, B. W., and Yamamoto, Y. (2020a). Audio for Audio is Better? An Investigation on Transfer Learning Models for Heart Sound Classification. In *Proceedings of the 42. Annual International Conference of the IEEE Engineering in Medicine & Biology Society in conjunction with the 43. Annual Conference of the Canadian Medical and Biological Engineering Society, EMBC 2020*, pages 74–77, Montréal, QC. IEEE, IEEE
- 434) Koike, T., Qian, K., Schuller, B., and Yamamoto, Y. (2020b). Learning Higher Representations from pre-trained Deep Models with Data Augmentation for the ComParE 2020 Challenge Mask Task. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 2047–2051, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 435) Latif, S., Asim, M., Rana, R., Khalifa, S., Jurdak, R., and Schuller, B. (2020a). Augmenting Generative Adversarial Networks for Speech Emotion Recognition. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 521–525, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 436) Latif, S., Rana, R., Khalifa, S., Jurdak, R., and Schuller, B. (2020d). Deep Architecture Enhancing Robustness to Noise, Adversarial Attacks, and Cross-corpus Setting for Speech Emotion Recognition. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 2327–2331, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 437) Li, C., Zhang, Q., Zhao, Z., Gu, L., and Schuller, B. (2021b). Exploring Spatial-Temporal Representations for fNIRS-based Intimacy Detection via an Attention-enhanced Cascade Convolutional Recurrent Neural Network. In *Proceedings 25. International Conference on Pattern Recognition (ICPR 2020)*, pages 8862–8869, Milan, Italy. IAPR, IEEE
- 438) Liu, S., Jiao, J., Zhao, Z., Dineley, J., Cummins, N., and Schuller, B. (2020a). Hierarchical Component Attention Based Speaker Turn Embedding for Emotion Recognition. In *Proceedings 33. International Joint Conference on Neural Networks (IJCNN)*, pages 1–7, Glasgow, UK. INNS/IEEE, IEEE
- 439) Liu, S., Triantafyllopoulos, A., Ren, Z., and Schuller, B. (2020b). Towards Speech Robustness for Acoustic Scene Classification. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 3087–3091, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 440) MacIntyre, A., Rizos, G., Batliner, A., Baird, A., Amiriparian, S., Hamilton, A., and Schuller, B. (2020). Deep Attentive End-to-End Continuous Breath Sensing from Speech. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 2082–2086, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 441) Mallol-Ragolta, A., Liu, S., Cummins, N., and Schuller, B. (2020b). A Curriculum Learning Approach for Pain Intensity Recognition from Facial Expressions. In *Proceedings 15. IEEE International Conference on Automatic Face & Gesture Recognition, FG 2020*, pages 534–538, Buenos Aires, Argentina. IEEE, IEEE
- 442) Mallol-Ragolta, A., Cummins, N., and Schuller, B. (2020a). An Investigation of Cross-Cultural Semi-Supervised Learning for Continuous Affect Recognition. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 511–515, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 443) Mertes, S., Baird, A., Schiller, D., Schuller, B., and André, E. (2020). An Evolutionary-based Generative Approach for Audio Data Augmentation. In *Proceedings IEEE 22. International Workshop on Multimedia Signal Processing, MMSp 2020*, pages 1–6, Tampere, Finland. IEEE, IEEE
- 444) Ottl, S., Amiriparian, S., Gerczuk, M., Karas, V., and Schuller, B. (2020). Group-level Speech Emotion Recognition Utilising Deep Spectrum Features. In *Proceedings of the 8. ICMI 2020 EmotiW – Emotion Recognition In The Wild Challenge (EmotiW 2020), 22. ACM International Conference on Multimodal Interaction (ICMI 2020)*, pages 821–826, Utrecht, The Netherlands. ACM, ACM
- 445) Ren, Z., Han, J., Cummins, N., and Schuller, B. (2020b). Enhancing Transferability of Black-box Adversarial Attacks via Lifelong Learning for Speech Emotion Recognition Models. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 496–

- 500, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 446) Ren, Z., Baird, A., Han, J., Zhang, Z., and Schuller, B. (2020a). Generating and Protecting against Adversarial Attacks for Deep Speech-based Emotion Recognition Models. In *Proceedings 45. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2020*, pages 7184–7188, Barcelona, Spain. IEEE, IEEE. (acceptance rate: 47%)
- 447) Reichel, U. D., Triantafyllopoulos, A., Oates, C., Huber, S., and Schuller, B. (2020). Spoken Language Identification by Means of Acoustic Mid-level Descriptors. In *Proceedings 31. (International) Conference on Electronic Processing of Speech Signals (Elektronische Sprachsignalverarbeitung), ESSV, Studientexte zur Sprachkommunikation*, Magdeburg, Germany. TUDpress. 8 pages
- 448) Rizos, G. and Schuller, B. (2020). Average Jane, Where Art Thou? – Recent Avenues in Efficient Machine Learning under Subjectivity Uncertainty. In *Proceedings of the 18. International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU*, volume 1237 of *Communications in Computer and Information Science, CCIS*, pages 42–55, Lisbon, Portugal. IEEE, Springer. invited contribution
- 449) Rizos, G., Baird, A., Elliott, M., and Schuller, B. (2020). StarGAN for Emotional Speech Conversion: Validated by Data Augmentation of End-to-End Emotion Recognition. In *Proceedings 45. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2020*, pages 3502–3506, Barcelona, Spain. IEEE, IEEE. (acceptance rate: 47%)
- 450) Song, M., Qian, K., Chen, B., Okabayashi, K., Parada-Cabaleiro, E., Yang, Z., Liu, S., Togami, K., Hidaka, I., Wang, Y., Schuller, B., and Yamamoto, Y. (2021c). Predicting Group Work Performance from Physical Handwriting Features in a Smart English Classroom. In *Proceedings of the 5. International Conference on Digital Signal Processing, IC DSP 2021*, pages 140–145, Chengdu, China. ACM, ACM
- 451) Song, M., Parada-Cabaleiro, E., Liu, S., Baird, A., Milling, M., Yang, Z., and Schuller, B. (2021b). Supervised Contrastive Learning for in Game-Play Frustration Detection from Speech. In *Proceedings International Conference on Human-Computer Interaction, HCI International 2021*, pages 617–629, Washington, DC. SpringerNature
- 452) Stappen, L., Baird, A., Rizos, G., Tzirakis, P., Du, X., Hafner, F., Schumann, L., Mallol-Ragolta, A., Schuller, B. W., Lefter, I., Cambria, E., and Kompatsiaris, I. (2020b). MuSe 2020 Challenge and Workshop: Multimodal Sentiment Analysis, Emotion-target Engagement and Trustworthiness Detection in Real-life Media. In *Proceedings of the 1. Multimodal Sentiment in Real-life Media Challenge and Workshop (MuSe) co-located with the 28. ACM International Conference on Multimedia, MM 2020*, pages 35–44, Seattle, WA. ACM, ACM
- 453) Stappen, L., Schuller, B., Lefter, I., Cambria, E., and Kompatsiaris, I. (2020g). Summary of MuSe 2020: Multimodal Sentiment Analysis, Emotion-target Engagement and Trustworthiness Detection in Real-life Media. In *Proceedings of the 28. ACM International Conference on Multimedia, MM 2020*, pages 4769–4770, Seattle, WA. ACM, ACM
- 454) Stappen, L., Rizos, G., Hasan, M., Hain, T., and Schuller, B. (2020e). Uncertainty-Aware Machine Support for Paper Reviewing on the Interspeech 2019 Submission Corpus. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 1808–1812, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 455) Stappen, L., Rizos, G., and Schuller, B. (2020f). X-AWARE: ConteXt-AWARE Human-Environment Attention Fusion for Driver Gaze Prediction in the Wild. In *Proceedings of the 22. ACM International Conference on Multimodal Interaction (ICMI 2020)*, pages 858–867, Virtual Event, Utrecht, The Netherlands. ACM, ACM. Grand Challenge Paper: Emotion Recognition in the Wild Challenge
- 456) Tzirakis, P., Shiarrella, A., Ewers, R., and Schuller, B. (2020b). Computer Audition for Continuous Rainforest Occupancy Monitoring: The Case of Bornean Gibbons’ Call Detection. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 1211–1215, Shanghai, China. ISCA, ISCA. awarded a student travel grant (acceptance rate: 47%)
- 457) Tzirakis, P., Papaioannou, A., Lattas, A., Tarasiou, M., Schuller, B., and Zafeiriou, S. (2020a). Synthesising 3D Facial Motion from “In-the-Wild” Speech. In *Proceedings 15. IEEE International Conference on Automatic Face & Gesture Recognition, FG 2020*, pages 627–634, Buenos Aires, Argentina. IEEE, IEEE
- 458) Xu, X., Deng, J., Zhang, Z., Wu, C., and Schuller, B. (2021). Identifying Surgical-Mask Speech Using Deep Neural Networks on Low-Level Aggregation. In *Proceedings of the 36. ACM/SIGAPP Symposium on Applied Computing, SAC 2021*, pages 580–585, Gwangju, South Korea. ACM, ACM
- 459) Yang, Z., Liu, S., Song, M., Parada-Cabaleiro, E., and Schuller, B. (2020). Adventitious Respiratory Classification using Attentive Residual Neural Networks. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 2912–2916, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 460) Zhao, Z., Bao, Z., Zhang, Z., Cummins, N., Wang, H., and Schuller, B. (2020a). Hierarchical Attention Transfer Networks for Depression Assessment from Speech. In *Proceedings 45. IEEE International Conference on Acoustics, Speech, and Signal Processing,*

- ICASSP 2020*, pages 7159–7163, Barcelona, Spain. IEEE, IEEE. (acceptance rate: 47%)
- 461) Zhao, Z., Li, Q., Cummins, N., Liu, B., Wang, H., Tao, J., and Schuller, B. (2020c). Hybrid Network Feature Extraction for Depression Assessment from Speech. In *Proceedings INTERSPEECH 2020, 21. Annual Conference of the International Speech Communication Association*, pages 4956–4960, Shanghai, China. ISCA, ISCA. (acceptance rate: 47%)
- 462) Schuller, B. W., Batliner, A., Bergler, C., Pokorny, F., Krajewski, J., Cychosz, M., Vollmann, R., Roelen, S.-D., Schnieder, S., Bergelson, E., Cristià, A., Seidl, A., Yankowitz, L., Nöth, E., Amiriparian, S., Hantke, S., and Schmitt, M. (2019c). The INTERSPEECH 2019 Computational Paralinguistics Challenge: Styrian Dialects, Continuous Sleepiness, Baby Sounds & Orca Activity. In *Proceedings INTERSPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, pages 2378–2382, Graz, Austria. ISCA, ISCA. (acceptance rate: 49.3%)
- 463) Schuller, B. W., Amiriparian, S., Keren, G., Baird, A., Schmitt, M., and Cummins, N. (2019b). The Next Generation of Audio Intelligence: A Survey-based Perspective on Improving Audio Analysis. In *Proceedings of the International Symposium on Auditory and Audiological Research, ISAAR*, volume 7, pages 101–112, Nyborg, Denmark. The Danavox Jubilee Foundation, The Danavox Jubilee Foundation
- 464) Al Futaisi, N., Zhang, Z., Cristia, A., Warlaumont, A., and Schuller, B. (2019). VCMNet: Weakly Supervised Learning for Automatic Infant Vocalisation Maturity Analysis. In *Proceedings of the 21. ACM International Conference on Multimodal Interaction, ICMI*, pages 205–209, Suzhou, China. ACM, ACM. (acceptance rate: 37%)
- 465) Amiriparian, S., Awad, A., Gerczuk, M., Stappen, L., Baird, A., Ottl, S., and Schuller, B. (2019a). Audio-based Recognition of Bipolar Disorder Utilising Capsule Networks. In *Proceedings 32. International Joint Conference on Neural Networks (IJCNN)*, pages 1–7, Budapest, Hungary. INNS/IEEE, IEEE
- 466) Amiriparian, S., Ottl, S., Gerczuk, M., Pugachevskiy, S., and Schuller, B. (2019e). Audio-based Eating Analysis and Tracking Utilising Deep Spectrum Features. In *Proceedings of the IEEE International Conference on e-Health and Bioengineering, EHB 2019*, Iasi, Romania. IEEE, IEEE. 5 pages
- 467) Amiriparian, S., Gerczuk, M., Coutinho, E., Baird, A., Ottl, S., Milling, M., and Schuller, B. (2019c). Emotion and Themes Recognition in Music Utilising Convolutional and Recurrent Neural Networks. In *Proceedings MediaEval 2019 Multimedia Benchmark Workshop*, volume 2670 of *CEUR-WS*, pages 1–3, Sophia Antipolis, France. ACM, CEUR. Paper ID 19
- 468) André, E., Bayer, S., Benke, I., Benlian, A., Cummins, N., Gimpel, H., Hinz, O., Kersting, K., Maedche, A., Muehlhaeuser, M., Riemann, J., Schuller, B. W., and Weber, K. (2019). Humane Anthropomorphic Agents: The Quest for the Outcome Measure. In *Proceedings AIS SIGPRAG 7. pre-ICIS Workshop on “Values and Ethics in the Digital Age”*, pages 1–16, Munich, Germany. AIS, AIS
- 469) Baird, A., Amiriparian, S., and Schuller, B. (2019c). Can Deep Generative Audio be Emotional? Towards an Approach for Personalised Emotional Audio Generation. In *Proceedings IEEE 21. International Workshop on Multimedia Signal Processing, MMSP 2019*, Kuala Lumpur, Malaysia. IEEE, IEEE. 5 pages
- 470) Baird, A., Amiriparian, S., Berschneider, M., Schmitt, M., and Schuller, B. (2019a). Predicting Blood Volume Pulse and Skin Conductance from Speech: Introducing a Novel Database and Results. In *Proceedings IEEE 21. International Workshop on Multimedia Signal Processing, MMSP 2019*, Kuala Lumpur, Malaysia. IEEE, IEEE. 5 pages
- 471) Baird, A., Coutinho, E., Hirschberg, J., and Schuller, B. W. (2019d). Sincerity in Acted Speech: Presenting the Sincere Apology Corpus and Results. In *Proceedings INTERSPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, pages 539–543, Graz, Austria. ISCA, ISCA. (acceptance rate: 49.3%)
- 472) Baird, A., Amiriparian, S., Cummins, N., Strumbauer, S., Janson, J., Messner, E.-M., Baumeister, H., Rohleder, N., and Schuller, B. W. (2019b). Using Speech to Predict Sequentially Measured Cortisol Levels During a Trier Social Stress Test. In *Proceedings INTERSPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, pages 534–538, Graz, Austria. ISCA, ISCA. (acceptance rate: 49.3%)
- 473) Guo, Y., Zhao, Z., Ma, Y., and Schuller, B. W. (2019). Speech Augmentation via Speaker-Specific Noise in Unseen Environment. In *Proceedings INTERSPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, pages 1781–1785, Graz, Austria. ISCA, ISCA. (acceptance rate: 49.3%)
- 474) Han, J., Zhang, Z., Ren, Z., and Schuller, B. (2019c). Implicit Fusion by Joint Audiovisual Training for Emotion Recognition in Mono Modality. In *Proceedings 44. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019*, pages 5861–5865, Brighton, UK. IEEE, IEEE. (acceptance rate: 46.5%)
- 475) Hemker, K., Rizos, G., and Schuller, B. (2019). Augment to Prevent: Synonym Replacement and Generative Data Augmentation in Deep Learning for Hate-Speech Classification. In *Proceedings 28. ACM International Conference on Information and Knowledge Management, CIKM*, pages 991–1000, Beijing, China. ACM, ACM. (acceptance rate: 19.4%)
- 476) Janott, C., Rohrmeier, C., Schmitt, M., Hemmert, W., and Schuller, B. (2019a). Snoring – An Acoustic Definition. In *Proceedings of the 41. Annual In-*

- ternational Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2019, pages 3653–3657, Berlin, Germany. IEEE, IEEE
- 477) Li, C., Zhang, Q., Zhao, Z., Gu, L., Cummins, N., and Schuller, B. (2019). Analysing and Inferring of Intimacy Based on fNIRS Signals and Peripheral Physiological Signals. In *Proceedings 32. International Joint Conference on Neural Networks (IJCNN)*, pages 1–8, Budapest, Hungary. INNS/IEEE, IEEE
- 478) Mallol-Ragolta, A., Zhao, Z., Stappen, L., Cummins, N., and Schuller, B. W. (2019b). A Hierarchical Attention Network-Based Approach for Depression Detection from Transcribed Clinical Interviews. In *Proceedings INTERSPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, pages 221–225, Graz, Austria. ISCA, ISCA. (acceptance rate: 49.3%)
- 479) Mallol-Ragolta, A., Schmitt, M., Baird, A., Cummins, N., and Schuller, B. (2019a). Performance Analysis of Unimodal and Multimodal Models in Valence-Based Empathy Recognition. In *Workshop Proceedings 14. IEEE International Conference on Automatic Face & Gesture Recognition, FG 2019*, Lille, France. IEEE, IEEE. 5 pages
- 480) Oates, C., Triantafyllopoulos, A., Steiner, I., and Schuller, B. W. (2019b). Robust Speech Emotion Recognition under Different Encoding Conditions. In *Proceedings INTERSPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, pages 3935–3939, Graz, Austria. ISCA, ISCA. (acceptance rate: 49.3%)
- 481) Pandit, V., Schmitt, M., Cummins, N., and Schuller, B. (2019b). I know how you feel now, and here’s why!: Demystifying Time-continuous High Resolution Text-based Affect Predictions In the Wild. In *Proceedings of the 32. IEEE International Symposium on Computer-Based Medical Systems, CBMS 2019*, pages 465–470, Córdoba, Spain. IEEE, IEEE
- 482) Parada-Cabaleiro, E., Batliner, A., and Schuller, B. (2019). A Diplomatic Edition of Il Lauro Secco: Ground Truth for OMR of White Mensural Notation. In *Proceedings 20. International Society for Music Information Retrieval Conference, ISMIR 2019*, pages 557–564, Delft, The Netherlands. ISMIR, ISMIR. (acceptance rate: 45%)
- 483) Qian, K., Kuromiya, H., Ren, Z., Schmitt, M., Zhang, Z., Nakamura, T., Yoshiuchi, K., Schuller, B., and Yamamoto, Y. (2019a). Automatic Detection of Major Depressive Disorder via a Bag-of-Behaviour-Words Approach. In *Proceedings of The 3. International Symposium on Image Computing and Digital Medicine, ISICDM 2019*, pages 71–75, Xi’an, China. International Society of Digital Medicine, ACM
- 484) Qian, K., Ren, Z., Dong, F., Lai, W.-H., Schuller, B., and Yamamoto, Y. (2019c). Deep Wavelets for Heart Sound Classification. In *Proceedings of the International Symposium on Intelligent Signal Processing and Communication Systems, ISPACS*, pages 1–2, Beitou, Taiwan. IEEE/IET, IEEE
- 485) Qian, K., Kuromiya, H., Zhang, Z., Nakamura, T., Yoshiuchi, K., Schuller, B. W., and Yamamoto, Y. (2019b). Teaching Machines to Know Your Depressive State: On Physical Activity in Health and Major Depressive Disorder. In *Proceedings of the 41. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2019*, pages 3592–3595, Berlin, Germany. IEEE, IEEE
- 486) Ren, Z., Kong, Q., Han, J., Plumbley, M. D., and Schuller, B. W. (2019b). Attention-based Atrous Convolutional Neural Networks: Visualisation and Understanding Perspectives of Acoustic Scenes. In *Proceedings 44. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019*, pages 56–60, Brighton, UK. IEEE, IEEE. (acceptance rate: 46.5%)
- 487) Ren, Z., Han, J., Cummins, N., Kong, Q., Plumbley, M., and Schuller, B. (2019a). Multi-instance Learning for Bipolar Disorder Diagnosis using Weakly Labelled Speech Data. In *Proceedings of the 9. International Digital Public Health Conference, DPH 2019*, pages 79–83, Marseille, France. ACM, ACM
- 488) Ringeval, F., Schuller, B., Valstar, M., Cummins, N., Cowie, R., Soleymani, M., Schmitt, M., Amiriparian, S., Messner, E.-M., Tavabi, L., Song, S., Alisamir, S., Lui, S., Zhao, Z., and Pantic, M. (2019b). AVEC 2019 Workshop and Challenge: State-of-Mind, Depression with AI, and Cross-Cultural Affect Recognition. In Ringeval, F., Schuller, B., Valstar, M., Cummins, N., Cowie, R., and Pantic, M., editors, *Proceedings of the 9. International Workshop on Audio/Visual Emotion Challenge, AVEC’19, co-located with the 27. ACM International Conference on Multimedia, MM 2019*, pages 3–12, Niece, France. ACM, ACM
- 489) Ringeval, F., Schuller, B., Valstar, M., Cummins, N., Cowie, R., and Pantic, M. (2019a). AVEC’19: Audio/Visual Emotion Challenge and Workshop. In *Proceedings of the 27. ACM International Conference on Multimedia, MM 2019*, pages 2718–2719, Niece, France. ACM, ACM
- 490) Rizos, G. and Schuller, B. (2019). Modelling Sample Informativeness for Deep Affective Computing. In *Proceedings 44. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019*, pages 3482–3486, Brighton, UK. IEEE, IEEE. (acceptance rate: 46.5%)
- 491) Rudovic, O., Zhang, M., Schuller, B., and Picard, R. (2019b). Multi-modal Active Learning From Human Data: A Deep Reinforcement Learning Approach. In *Proceedings of the 21. ACM International Conference on Multimodal Interaction, ICMI*, pages 6–15, Suzhou, China. ACM, ACM. ICMI 2019 best paper runner-up (acceptance rate: 37%)
- 492) Rudovic, O., Schuller, B., Breazeal, C., and Picard, R. (2019a). Personalized Estimation of Engagement from Videos Using Active Learning with Deep Reinforcement Learning. In *Proceedings 2019 IEEE/CVF*

- Conference on Computer Vision and Pattern Recognition Workshops (CVPRW), 9. IEEE International Workshop on Analysis and Modeling of Faces and Gestures (AMFG 2019) in conjunction with the IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2019*, pages 217–226, Long Beach, CA. IEEE/CVF, IEEE
- 493) Schiele, J., Rabe, F., Schmitt, M., Glaser, M., Häring, F., Brunner, J. O., Bauer, B., Schuller, B., Traidl-Hoffmann, C., and Damialis, A. (2019). Automated Classification of Airborne Pollen using Neural Networks. In *Proceedings of the 41. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2019*, pages 4474–4478, Berlin, Germany. IEEE, IEEE
- 494) Schmid, J., Schneider, M., Höb, A., and Schuller, B. (2019a). A Comparison of AI-Based Throughput Prediction for Cellular Vehicle-To-Server Communication. In *Proceedings of the 15. International Wireless Communications and Mobile Computing Conference, IWCMC 2019*, pages 471–476, Tangier, Morocco. IEEE, IEEE. (acceptance rate: 35%)
- 495) Schmid, J., Schneider, M., Höb, A., and Schuller, B. (2019b). A Deep Learning Approach for Location Independent Throughput Prediction. In *Proceedings of the 8. International Conference on Connected Vehicles and Expo, ICCVE 2019*, Graz, Austria. IEEE, IEEE
- 496) Schmitt, M., Cummins, N., and Schuller, B. W. (2019). Continuous Emotion Recognition in Speech – Do We Need Recurrence? In *Proceedings INTERSPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, pages 2808–2812, Graz, Austria. ISCA, ISCA. (acceptance rate: 49.3%)
- 497) Schmitt, M. and Schuller, B. W. (2019b). End-to-end Audio Classification with Small Datasets – Making It Work. In *Proceedings 27. European Signal Processing Conference (EUSIPCO)*, A Coruna, Spain. EURASIP, IEEE. 5 pages (acceptance rate: 58.8%)
- 498) Song, M., Yang, Z., Baird, A., Parada-Cabaleiro, E., Zhang, Z., Zhao, Z., and Schuller, B. (2019). Audiovisual Analysis for Recognising Frustration during Game-Play: Introducing the Multimodal Game Frustration Database. In *Proceedings 8. biannual Conference on Affective Computing and Intelligent Interaction, ACII*, Cambridge, UK. AAAC, IEEE. (acceptance rate: 40.8%)
- 499) Stappen, L., Cummins, N., Rathner, E.-M., Baumeister, H., Dineley, J., and Schuller, B. (2019b). Context Modelling Using Hierarchical Attention Networks for Sentiment and Self-Assessed Emotion Detection in Spoken Narratives. In *Proceedings 44. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019*, pages 6680–6684, Brighton, UK. IEEE, IEEE. (acceptance rate: 46.5%)
- 500) Stappen, L., Karas, V., Cummins, N., Ringeval, F., Scherer, K., and Schuller, B. (2019c). From Speech to Facial Activity: Towards Cross-modal Sequence-to-Sequence Attention Networks. In *Proceedings IEEE 21. International Workshop on Multimedia Signal Processing, MMSP 2019*, Kuala Lumpur, Malaysia. IEEE, IEEE. 6 pages
- 501) Triantafyllopoulos, A., Keren, G., Wagner, J., Steiner, I., and Schuller, B. W. (2019). Towards Robust Speech Emotion Recognition using Deep Residual Networks for Speech Enhancement. In *Proceedings INTERSPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, pages 1691–1695, Graz, Austria. ISCA, ISCA. (acceptance rate: 49.3%)
- 502) Tzirakis, P., Nicolaou, M., Schuller, B., and Zafeiriou, S. (2019a). Time-series Clustering with Jointly Learning Deep Representations, Clusters and Temporal Boundaries. In *Proceedings 14. IEEE International Conference on Automatic Face & Gesture Recognition, FG 2019*, Lille, France. IEEE, IEEE
- 503) Xu, X., Deng, J., Cummins, N., Zhang, Z., Zhao, L., and Schuller, B. W. (2019b). Autonomous emotion learning in speech: A view of zero-shot speech emotion recognition. In *Proceedings INTERSPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, pages 949–953, Graz, Austria. ISCA, ISCA. (acceptance rate: 49.3%)
- 504) Yang, Z., Qian, K., Ren, Z., Baird, A., Zhang, Z., and Schuller, B. (2019). Acoustic Scene Classification via Wavelet Packet Transformation. In *Proceedings 7. China Conference on Sound and Music Technology, CSMT 2019*, pages 133–143, Harbin, China. Shanghai Computer Music Association, Springer
- 505) Zhang, Z., Wu, B., and Schuller, B. (2019b). Attention-Augmented End-to-End Multi-Task Learning for Emotion Prediction from Speech. In *Proceedings 44. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019*, pages 6705–6709, Brighton, UK. IEEE, IEEE. (acceptance rate: 46.5%)
- 506) Zhao, Z., Bao, Z., Zhang, Z., Cummins, N., Wang, H., and Schuller, B. W. (2019a). Attention-enhanced Connectionist Temporal Classification for Discrete Speech Emotion Recognition. In *Proceedings INTERSPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, pages 206–210, Graz, Austria. ISCA, ISCA. (acceptance rate: 49.3%)
- 507) Schuller, B. (2018d). Reading the Author and Speaker: Towards a Holistic Approach on Automatic Assessment of What is in One’s Words. In Gelbukh, A., editor, *Computational Linguistics and Intelligent Text Processing. Proceedings 18. International Conference on Intelligent Text Processing and Computational Linguistics, CICLing 2017, Budapest, Hungary, 17.-23.04.2017*, volume 10762 of *Lecture Notes in Computer Science (LNCS)*, pages 275–288. Springer, Berlin/Heidelberg
- 508) Schuller, B. W., Steidl, S., Batliner, A., Marschik, P. B., Baumeister, H., Dong, F., Hantke, S., Pokorný,

- F., Rathner, E.-M., Bartl-Pokorny, K. D., Einspieler, C., Zhang, D., Baird, A., Amiriparian, S., Qian, K., Ren, Z., Schmitt, M., Tzirakis, P., and Zafeiriou, S. (2018b). The INTERSPEECH 2018 Computational Paralinguistics Challenge: Atypical & Self-Assessed Affect, Crying & Heart Beats. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 122–126, Hyderabad, India. ISCA, ISCA. (acceptance rate: 54%)
- 509) Amiriparian, S., Freitag, M., Cummins, N., Gerczuk, M., Pugachevskiy, S., and Schuller, B. W. (2018b). A Fusion of Deep Convolutional Generative Adversarial Networks and Sequence to Sequence Autoencoders for Acoustic Scene Classification. In *Proceedings 26. European Signal Processing Conference (EUSIPCO)*, pages 977–981, Rome, Italy. EURASIP, IEEE
- 510) Amiriparian, S., Gerczuk, M., Ottl, S., Cummins, N., Pugachevskiy, S., and Schuller, B. (2018c). Bag-of-Deep-Features: Noise-Robust Deep Feature Representations for Audio Analysis. In *Proceedings 31. International Joint Conference on Neural Networks (IJCNN)*, pages 1–7, Rio de Janeiro, Brazil. INNS/IEEE, IEEE
- 511) Amiriparian, S., Schmitt, M., Cummins, N., Qian, K., Dong, F., and Schuller, B. (2018e). Deep Unsupervised Representation Learning for Abnormal Heart Sound Classification. In *Proceedings of the 40. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2018*, pages 4776–4779, Honolulu, HI. IEEE, IEEE
- 512) Amiriparian, S., Baird, A., Julka, S., Alcorn, A., Ottl, S., Petrović, S., Ainger, E., Cummins, N., and Schuller, B. (2018a). Recognition of Echolalic Autistic Child Vocalisations Utilising Convolutional Recurrent Neural Networks. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 2334–2338, Hyderabad, India. ISCA, ISCA. (acceptance rate: 54%)
- 513) Baird, A., Hantke, S., and Schuller, B. (2018b). Responsible and Representative Multimodal Data Acquisition and Analysis: On Auditability, Benchmarking, Confidence, Data-Reliance & Explainability. In *Proceedings of Legal and Ethical Issues Workshop, satellite of the 11th Language Resources and Evaluation Conference (LREC 2018)*, Miyazaki, Japan. ELRA, ELRA. 8 pages, to appear
- 514) Baird, A., Parada-Cabaleiro, E., Hantke, S., Burkhardt, F., Cummins, N., and Schuller, B. (2018e). The Perception and Analysis of the Likeability and Human Likeness of Synthesized Speech. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 2863–2867, Hyderabad, India. ISCA, ISCA. (acceptance rate: 54%)
- 515) Baird, A., Parada-Cabaleiro, E., Fraser, C., Hantke, S., and Schuller, B. (2018d). The Perceived Emotion of Isolated Synthetic Audio: The EmoSynth Dataset and Results. In *Proceedings of the 12th Audio Mostly Conference on Interaction with Sound (Audio Mostly)*, Wrexham, UK. ACM, ACM. 8 pages
- 516) Cummins, N., Amiriparian, S., Ottl, S., Gerczuk, M., Schmitt, M., and Schuller, B. (2018a). Multimodal Bag-of-Words for Cross Domains Sentiment Analysis. In *Proceedings 43. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018*, pages 4954–4958, Calgary, Canada. IEEE, IEEE. (acceptance rate: 49.7%)
- 517) Demir, F., Sengur, A., Cummins, N., Amiriparian, S., and Schuller, B. (2018). Low Level Texture Features for Snore Sound Discrimination. In *Proceedings of the 40. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2018*, pages 413–416, Honolulu, HI. IEEE, IEEE
- 518) Guo, Y., Han, J., Zhang, Z., Schuller, B., and Ma, Y. (2018). Exploring a New Method for Food Likability Rating Based on DT-CWT Theory. In *Proceedings of the 20. ACM International Conference on Multimodal Interaction, ICMI*, pages 569–573, Boulder, CO. ACM, ACM
- 519) Hagerer, G., Cummins, N., Eyben, F., and Schuller, B. (2018). Robust Laughter Detection for Mobile Wellbeing Sensing on Wearable Devices . In *Proceedings of the 8. International Conference on Digital Health, DH 2018*, pages 156–157, Lyon, France. ACM, ACM
- 520) Han, J., Zhang, Z., Schmitt, M., Ren, Z., Ringeval, F., and Schuller, B. (2018e). Bags in Bag: Generating Context-Aware Bags for Tracking Emotions from Speech. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 3082–3086, Hyderabad, India. ISCA, ISCA. awarded a student travel grant (acceptance rate: 54%)
- 521) Han, J., Zhang, Z., Ren, Z., Ringeval, F., and Schuller, B. (2018d). Towards Conditional Adversarial Training for Predicting Emotions from Speech. In *Proceedings 43. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018*, pages 6822–6826, Calgary, Canada. IEEE, IEEE. awarded a student travel grant (acceptance rate: 49.7%)
- 522) Han, W., Ruan, H., Chen, X., Wang, Z., Li, H., and Schuller, B. (2018f). Towards Temporal Modelling of Categorical Speech Emotion Recognition. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 932–936, Hyderabad, India. ISCA, ISCA. (acceptance rate: 54%)
- 523) Han, J., Schmitt, M., and Schuller, B. (2018a). You Sound Like Your Counterpart: Interpersonal Speech Analysis. In Karpov, A., Jokisch, O., and Potapova, R., editors, *Proceedings 20. International Conference on Speech and Computer, SPECOM 2018*, volume 11096 of LNCS, pages 188–197, Leipzig, Germany.

- ISCA, Springer
- 524) Hantke, S., Stemp, C., and Schuller, B. (2018h). Annotator Trustability-based Cooperative Learning Solutions for Intelligent Audio Analysis. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 3504–3508, Hyderabad, India. ISCA, ISCA. (acceptance rate: 54%)
- 525) Hantke, S., Cohrs, C., Schmitt, M., Tannert, B., Lütkebohmert, F., Detmers, M., Schelhowe, H., and Schuller, B. (2018c). Introducing an Emotion-Driven Assistance System for Cognitively Impaired Individuals. In Miesenberger, K. and Kouroupetroglou, G., editors, *Computers Helping People with Special Needs. Proceedings 16. International Conference on Computers Helping People with Special Needs, ICCHP, LNCS*, pages 486–494, Linz, Austria. Springer
- 526) Hantke, S., Schmitt, M., Tzirakis, P., and Schuller, B. (2018g). EAT – The ICMI 2018 Eating Analysis and Tracking Challenge. In *Proceedings of the 20. ACM International Conference on Multimodal Interaction, ICMI*, pages 559–563, Boulder, CO. ACM, ACM
- 527) Hantke, S., Appel, T., and Schuller, B. (2018b). The Inclusion of Gamification Solutions to Enhance User Enjoyment on Crowdsourcing Platforms. In *Proceedings of the first Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia 2018)*, Beijing, China. AAAC, IEEE. 6 pages
- 528) Hantke, S., Olenyi, T., Hausner, C., and Schuller, B. (2018f). VoiLA: An Online Intelligent Speech Analysis and Collection Platform. In *Proceedings of the first Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia 2018)*, Beijing, China. AAAC, IEEE. 5 pages (invited as one of 8% best papers for the International Journal of Automation and Computing, Springer, oral acceptance rate: 29%)
- 529) Hantke, S., Cummins, N., and Schuller, B. (2018d). What is my dog trying to tell me? The automatic recognition of the context and perceived emotion of dog barks. In *Proceedings 43. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018*, pages 5134–5138, Calgary, Canada. IEEE, IEEE. (acceptance rate: 49.7%)
- 530) Huang, D.-Y., Zhao, S., Schuller, B. W., Yao, H., Tao, J., Xu, M., Xie, L., Huang, Q., and Yang, J. (2018b). ASMMC-MMAC 2018: The Joint Workshop of 4. the Workshop on Affective Social Multimedia Computing and first Multi-Modal Affective Computing of Large-Scale Multimedia Data Workshop. In *Proceedings of the 26. ACM International Conference on Multimedia, MM 2018*, pages 2120–2121, Seoul, South Korea. ACM, ACM
- 531) Jomrich, F., Schmid, J., Knapp, S., Höß, A., Steinmetz, R., and Schuller, B. (2018). Analysing communication requirements for crowdsourced backend generation of HD Maps used in automated driving. In *Proceedings 2018 IEEE Vehicular Networking Conference (VNC 2018)*, Taipei, Taiwan. IEEE, IEEE. 8 pages
- 532) Keren, G., Sabato, S., and Schuller, B. (2018f). Fast Single-Class Classification and the Principle of Logit Separation. In *Proceedings International Conference on Data Mining, ICDM 2018*, pages 227–236, Singapore, Singapore. IEEE, IEEE. (best student paper award, full paper acceptance rate: 8.86%)
- 533) Keren, G., Han, J., and Schuller, B. (2018c). Scaling Speech Enhancement in Unseen Environments with Noise Embeddings. In *Proceedings The 5. International Workshop on Speech Processing in Everyday Environments, CHiME 2018, held in conjunction with Interspeech 2018*, pages 25–29, Hyderabad, India. ISCA, ISCA
- 534) Kohlschein, C., Klischies, D., Meisen, T., Schuller, B. W., and Werner, C. J. (2018). Automatic Processing of Clinical Aphasia Data collected during Diagnosis Sessions: Challenges and Prospects. In Kokkinakis, D., editor, *Proceedings of Resources and Processing of linguistic, para-linguistic and extra-linguistic Data from people with various forms of cognitive/psychiatric impairments (RaPID-2 2018), satellite of the 11th Language Resources and Evaluation Conference (LREC 2018)*, pages 11–18, Miyazaki, Japan. ELRA, ELRA
- 535) Li, Y., Tao, J., Schuller, B., Shan, S., Jiang, D., and Jia, J. (2018). MEC 2017: Multimodal Emotion Recognition Challenge 2017. In *Proceedings of the first Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia 2018)*, Beijing, China. AAAC, IEEE. 5 pages
- 536) Pandit, V., Schmitt, M., Cummins, N., Graf, F., Paletta, L., and Schuller, B. (2018b). How Good Is Your Model ‘Really’? On ‘Wildness’ of the In-the-wild Speech-based Affect Recognisers. In Karpov, A., Jokisch, O., and Potapova, R., editors, *Proceedings 20. International Conference on Speech and Computer, SPECOM 2018*, volume 11096 of LNCS, pages 490–500, Leipzig, Germany. ISCA, Springer
- 537) Pandit, V., Cummins, N., Schmitt, M., Hantke, S., Graf, F., Paletta, L., and Schuller, B. (2018a). Tracking Authentic and In-the-wild Emotions using Speech. In *Proceedings of the first Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia 2018)*, Beijing, China. AAAC, IEEE. 6 pages (oral acceptance rate: 29%)
- 538) Parada-Cabaleiro, E., Costantini, G., Batliner, A., Baird, A., and Schuller, B. (2018a). Categorical vs Dimensional Perception of Italian Emotional Speech. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 3638–3642, Hyderabad, India. ISCA, ISCA. (acceptance rate: 54%)
- 539) Parada-Cabaleiro, E., Schmitt, M., Batliner, A., and Schuller, B. (2018c). Musical-Linguistic Annotations of Il Lauro Secco. In *Proceedings 19. International Society for Music Information Retrieval Conference, ISMIR 2018*, pages 461–467, Paris, France. ISMIR,



## ISMIR

- 540) Parada-Cabaleiro, E., Schmitt, M., Batliner, A., Hanke, S., Costantini, G., Scherer, K., and Schuller, B. (2018b). Identifying Emotions in Opera Singing: Implications of Adverse Acoustic Conditions. In *Proceedings 19. International Society for Music Information Retrieval Conference, ISMIR 2018*, pages 376–382, Paris, France. ISMIR, ISMIR
- 541) Rathner, E.-M., Djamali, J., Terhorst, Y., Schuller, B., Cummins, N., Salamon, G., Hunger-Schoppe, C., and Baumeister, H. (2018a). How did you like 2017? Detection of language markers of depression and narcissism in personal narratives. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 3388–3392, Hyderabad, India. ISCA, ISCA. (acceptance rate: 54%)
- 542) Rathner, E.-M., Terhorst, Y., Cummins, N., Schuller, B., and Baumeister, H. (2018b). State of mind: Classification through self-reported affect and word use in speech. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 267–271, Hyderabad, India. ISCA, ISCA. (acceptance rate: 54%)
- 543) Ren, Z., Kong, Q., Qian, K., and Schuller, B. (2018c). Attention-based Convolutional Neural Networks for Acoustic Scene Classification. In Bello, J. P., Ellis, D., and Richard, G., editors, *Proceedings of the 3. Detection and Classification of Acoustic Scenes and Events 2018 Workshop, DCASE 2018*, Surrey, UK. IEEE, Surrey Research Insights (SRI). 5 pages
- 544) Ren, Z., Cummins, N., Han, J., Schnieder, S., Krajewski, J., and Schuller, B. (2018a). Evaluation of the Pain Level from Speech: Introducing a Novel Pain Database and Benchmarks. In *Proceedings 13th ITG Conference on Speech Communication*, volume 282 of *ITG-Fachbericht*, pages 56–60, Oldenburg, Germany. ITG/VDE, IEEE/VDE
- 545) Ren, Z., Cummins, N., Pandit, V., Han, J., Qian, K., and Schuller, B. (2018b). Learning Image-based Representations for Heart Sound Classification. In *Proceedings of the 8. International Conference on Digital Health, DH 2018*, pages 143–147, Lyon, France. ACM, ACM
- 546) Ringeval, F., Schuller, B., Valstar, M., Cowie, R., Kaya, H., Schmitt, M., Amiriparian, S., Cummins, N., Lalanne, D., Michaud, A., Ciftci, E., Gülec, H., Salah, A. A., and Pantic, M. (2018a). AVEC 2018 Workshop and Challenge: Bipolar Disorder and Cross-Cultural Affect Recognition. In Ringeval, F., Schuller, B., Valstar, M., Cowie, R., and Pantic, M., editors, *Proceedings of the 8. International Workshop on Audio/Visual Emotion Challenge, AVEC'18, co-located with the 26. ACM International Conference on Multimedia, MM 2018*, pages 3–13, Seoul, South Korea. ACM, ACM
- 547) Ringeval, F., Schuller, B., Valstar, M., Cowie, R., and Pantic, M. (2018c). Summary for AVEC 2018: Bipolar Disorder and Cross-Cultural Affect Recognition. In *Proceedings of the 26. ACM International Conference on Multimedia, MM 2018*, pages 2111–2112, Seoul, South Korea. ACM, ACM
- 548) Rudovic, O., Utsumi, Y., Lee, J., Hernandez, J., Ferrer, E. C., Schuller, B., and Picard, R. W. (2018c). CultureNet: A Deep Learning Approach for Engagement Intensity Estimation from Face Images of Children with Autism. In *Proceedings 31. IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS*, pages 339–346, Madrid, Spain. IEEE/RSJ, IEEE. (acceptance rate: 46.7%)
- 549) Schmid, J., Heß, P., Höß, A., and Schuller, B. (2018). Passive monitoring and geo-based prediction of mobile network vehicle-to-server communication. In *Proceedings of the 14. International Wireless Communications and Mobile Computing Conference (IWCMC 2018)*, pages 1483–1488, Limassol, Cyprus. IEEE, IEEE
- 550) Sengur, A., Demir, F., Lu, H., Amiriparian, S., Cummins, N., and Schuller, B. (2018). Compact Bilinear Deep Features for Environmental Sound Recognition. In *Proceedings International Conference on Artificial Intelligence and Data Mining, IDAP 2018*, Malatya, Turkey. IEEE, IEEE. 5 pages
- 551) Sertolli, B., Cummins, N., Sengur, A., and Schuller, B. (2018). Deep End-to-End Representation Learning for Food Type Recognition from Speech. In *Proceedings of the 20. ACM International Conference on Multimodal Interaction, ICMI*, pages 574–578, Boulder, CO. ACM, ACM
- 552) Song, S., Zhang, S., Schuller, B., Shen, L., and Valstar, M. (2018a). Noise Invariant Frame Selection: A Simple Method to Address the Background Noise Problem for Text-Independent Speaker Verification. In *Proceedings 31. International Joint Conference on Neural Networks (IJCNN)*, pages 1–8, Rio de Janeiro, Brazil. INNS/IEEE, IEEE
- 553) Tzirakis, P., Zhang, J., and Schuller, B. (2018b). End-to-End Speech Emotion Recognition using Deep Neural Networks. In *Proceedings 43. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018*, pages 5089–5093, Calgary, Canada. IEEE, IEEE. awarded a student travel grant (acceptance rate: 49.7%)
- 554) Vögel, H.-J., Süß, C., Ghaderi, V., Chadowitz, R., André, E., Cummins, N., Schuller, B., Härrä, J., Troncy, R., Huet, B., Önen, M., Ksentini, A., Conradt, J., Adi, A., Zadorojniy, A., Terken, J., Beskow, J., Morrison, A., Eng, K., Eyben, F., Moubayed, S. A., and Müller, S. (2018). Emotion-awareness for intelligent Vehicle Assistants: a research agenda. In Stolle, R., Broy, M., and Scholz, S., editors, *Proceedings First Workshop on Software Engineering for AI in Autonomous Systems, SEFAIAS, co-located with the 40. International Conference on Software Engineering, ICSE*, pages 11–15, Gothenburg, Sweden. ACM, ACM
- 555) Wagner, J., Baur, T., Schiller, D., Zhang, Y., Schuller, B., Valstar, M., and André<sup>1</sup>, E. (2018a). Show Me



- What You've Learned: Applying Cooperative Machine Learning for the Semi-Automated Annotation of Social Signals. In *Proceedings of the 2. Workshop on Explainable Artificial Intelligence (XAI 2018) as part of the Fairness, Interpretability, and Explainability Federation of Workshops of the 27. International Joint Conference on Artificial Intelligence and the 23. European Conference on Artificial Intelligence, IJCAI-ECAI 2018*, Stockholm, Sweden. IJCAI/AAAI. 7 pages
- 556) Wang, J., Strömfelt, H., and Schuller, B. W. (2018). A CNN-GRU Approach to Capture Time-Frequency Pattern Interdependence for Snore Sound Classification. In *Proceedings 26. European Signal Processing Conference (EUSIPCO)*, pages 997–1001, Rome, Italy. EURASIP, IEEE
- 557) Zhang, Z., Cristia, A., Warlaumont, A., and Schuller, B. (2018a). Automated Classification of Children's Linguistic versus Non-Linguistic Vocalisations. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 2588–2592, Hyderabad, India. ISCA, ISCA. (acceptance rate: 54%)
- 558) Zhang, Z., Han, J., Qian, K., and Schuller, B. (2018f). Evolving Learning for Analysing Mood-Related Infant Vocalisation. In *Proceedings INTERSPEECH 2018, 19. Annual Conference of the International Speech Communication Association*, pages 142–146, Hyderabad, India. ISCA, ISCA. (acceptance rate: 54%)
- 559) Zhao, S., Ding, G., Huang, Q., Chua, T.-S., Schuller, B. W., and Keutzer, K. (2018). Affective Image Content Analysis: A Comprehensive Survey. In *Proceedings of the 27. International Joint Conference on Artificial Intelligence, IJCAI 2018*, pages 5534–5541, Stockholm, Sweden. IJCAI/AAAI. (acceptance rate survey track: 35%)
- 560) Schuller, B. (2017a). Big Data, Deep Learning – At the Edge of X-Ray Speaker Analysis. In *Proceedings 19. International Conference on Speech and Computer, SPECOM 2017, Hatfield, UK, 12.-16.09.2017*, Lecture Notes in Computer Science (LNCS), pages 20–34. Springer, Berlin/Heidelberg
- 561) Schuller, B., Steidl, S., Batliner, A., Bergelson, E., Krajewski, J., Janott, C., Amatuni, A., Casillas, M., Seidl, A., Soderstrom, M., Warlaumont, A., Hidalgo, G., Schnieder, S., Heiser, C., Hohenhorst, W., Herzog, M., Schmitt, M., Qian, K., Zhang, Y., Trigeorgis, G., Tzirakis, P., and Zafeiriou, S. (2017b). The INTERSPEECH 2017 Computational Paralinguistics Challenge: Addressee, Cold & Snoring. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 3442–3446, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51%)
- 562) Amiriparian, S., Pugachevskiy, S., Cummins, N., Hantke, S., Pohjalainen, J., Keren, G., and Schuller, B. (2017e). CAST a database: Rapid targeted large-scale big data acquisition via small-world modelling of social media platforms. In *Proceedings 7. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, pages 340–345, San Antonio, TX. AAAC, IEEE. (acceptance rate: 50%)
- 563) Amiriparian, S., Freitag, M., Cummins, N., and Schuller, B. (2017b). Feature Selection in Multimodal Continuous Emotion Prediction. In *Proceedings 2. International Workshop on Automatic Sentiment Analysis in the Wild (WASA 2017) held in conjunction with the 7. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, pages 30–37, San Antonio, TX. AAAC, IEEE
- 564) Amiriparian, S., Cummins, N., Ottl, S., Gerczuk, M., and Schuller, B. (2017a). Sentiment Analysis Using Image-based Deep Spectrum Features. In *Proceedings 2. International Workshop on Automatic Sentiment Analysis in the Wild (WASA 2017) held in conjunction with the 7. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, pages 26–29, San Antonio, TX. AAAC, IEEE
- 565) Amiriparian, S., Gerczuk, M., Ottl, S., Cummins, N., Freitag, M., Pugachevskiy, S., and Schuller, B. (2017d). Snore Sound Classification Using Image-based Deep Spectrum Features. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 3512–3516, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51%)
- 566) Amiriparian, S., Freitag, M., Cummins, N., and Schuller, B. (2017c). Sequence to Sequence Autoencoders for Unsupervised Representation Learning from Audio. In *Proceedings of the 2. Detection and Classification of Acoustic Scenes and Events 2017 Workshop (DCASE 2017)*, pages 17–21, Munich, Germany. IEEE, IEEE
- 567) Baird, A., Amiriparian, S., Cummins, N., Alcorn, A. M., Batliner, A., Pugachevskiy, S., Freitag, M., Gerczuk, M., and Schuller, B. (2017a). Automatic Classification of Autistic Child Vocalisations: A Novel Database and Results. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 849–853, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51%)
- 568) Baird, A., Jorgensen, S. H., Parada-Cabaleiro, E., Hantke, S., Cummins, N., and Schuller, B. (2017b). Perception of Paralinguistic Traits in Synthesized Voices. In *Proceedings of the 11th Audio Mostly Conference on Interaction with Sound (Audio Mostly)*, London, UK. ACM, ACM. 5 pages (acceptance rate: 66%)
- 569) Böhm, J., Eyben, F., Schmitt, M., Kosch, H., and Schuller, B. (2017). Seeking the SuperStar: Automatic Assessment of Perceived Singing Quality. In *Proceedings 30. International Joint Conference on Neural Networks (IJCNN)*, pages 1560–1569, Anchorage, AK. INNS/IEEE, IEEE. (acceptance rate: 67%)

- 570) Brückner, R., Schmitt, M., Pantic, M., and Schuller, B. (2017). Spotting Social Signals in Conversational Speech over IP: A Deep Learning Perspective. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 2371–2375, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51%)
- 571) Burkhardt, F., Weiss, B., Eyben, F., Deng, J., and Schuller, B. (2017b). Detecting Vocal Irony. In Rehm, G. and Declerck, T., editors, *Language Technologies for the Challenges of the Digital Age. Proceedings 2017 bi-annual meeting of the German Society for Computational Linguistics and Language Technology, GSCL*, volume 10713 of *LNCS*, pages 11–22, Berlin, Germany. GSCL, Springer
- 572) Chen, T., Qian, K., Mutanen, A., Schuller, B., Järventausta, P., and Su, W. (2017). Classification of Electricity Customer Groups Towards Individualized Price Scheme Design. In *Proceedings 49. North American Power Symposium (NAPS)*, pages 1–4, Morgantown, WV. IEEE, IEEE
- 573) Cummins, N., Amiriparian, S., Hagerer, G., Batliner, A., Steidl, S., and Schuller, B. (2017a). An Image-based Deep Spectrum Feature Representation for the Recognition of Emotional Speech. In *Proceedings of the 25. ACM International Conference on Multimedia, MM 2017*, pages 478–484, Mountain View, CA. ACM, ACM. (oral acceptance rate: 7.5%)
- 574) Cummins, N., Vlasenko, B., Sagha, H., and Schuller, B. (2017d). Enhancing speech-based depression detection through gender dependent vowel level formant features. In *Proceedings 16. Conference on Artificial Intelligence in Medicine (AIME)*, pages 209–214, Vienna, Austria. Society for Artificial Intelligence in MEDicine (AIME)
- 575) Cummins, N., Schmitt, M., Amiriparian, S., Krajewski, J., and Schuller, B. (2017c). You sound ill, take the day off: Classification of speech affected by Upper Respiratory Tract Infection. In *Proceedings of the 39. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2017*, pages 3806–3809, Jeju Island, South Korea. IEEE, IEEE
- 576) Deng, J., Eyben, F., Schuller, B., and Burkhardt, F. (2017b). Deep Neural Networks for Anger Detection from Real Life Speech Data. In *Proceedings 2. International Workshop on Automatic Sentiment Analysis in the Wild (WASA 2017) held in conjunction with the 7. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, pages 1–6, San Antonio, TX. AAAC, IEEE
- 577) Deng, J., Cummins, N., Schmitt, M., Qian, K., Ringeval, F., and Schuller, B. (2017a). Speech-based Diagnosis of Autism Spectrum Condition by Generative Adversarial Network Representations. In *Proceedings of the 7. International Conference on Digital Health, DH 2017*, pages 53–57, London, U.K. ACM, ACM
- 578) Eyben, F., Unfried, M., Hagerer, G., and Schuller, B. (2017b). Automatic Multi-lingual Arousal Detection from Voice Applied to Real Product Testing Applications. In *Proceedings 42. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2017*, pages 5155–5159, New Orleans, LA. IEEE, IEEE. (acceptance rate: 49%)
- 579) Freitag, M., Amiriparian, S., Cummins, N., Gerczuk, M., and Schuller, B. (2017a). An ‘End-to-Evolution’ Hybrid Approach for Snore Sound Classification. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 3507–3511, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51%)
- 580) Geib, T., Schmitt, M., and Schuller, B. (2017). Automatic Guitar String Detection by String-Inverse Frequency Estimation. In Eibl, M. and Gaedke, M., editors, *Proceedings INFORMATIK 2017, Lecture Notes in Informatics (LNI)*, pages 127–138, Chemnitz, Germany. GI, GI
- 581) Guo, J., Qian, K., Schuller, B. W., and Matsuoka, S. (2017b). GPU-based Training of Autoencoders for Bird Sound Data Processing. In *Proceedings IEEE International Conference on Consumer Electronics Taiwan, ICCE-TW 2017*, Taipei, Taiwan. IEEE, IEEE. 2 pages
- 582) Hagerer, G., Eyben, F., Sagha, H., Schuller, D., and Schuller, B. (2017b). VoicePlay – An Affective Sports Game Operated by Speech Emotion Recognition based on the Component Process Model. In *Proceedings 7. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, pages 74–76, San Antonio, TX. AAAC, IEEE
- 583) Hagerer, G., Cummins, N., Eyben, F., and Schuller, B. (2017a). “Did you laugh enough today?” – Deep Neural Networks for Mobile and Wearable Laughter Trackers. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 2044–2045, Stockholm, Sweden. ISCA, ISCA. Show & Tell demonstration (acceptance rate: 67%)
- 584) Hagerer, G., Pandit, V., Eyben, F., and Schuller, B. (2017c). Enhancing LSTM RNN-based Speech Overlap Detection by Artificially Mixed Data. In *Proceedings AES 56. International Conference on Semantic Audio*, pages 1–8, Erlangen, Germany. AES, Audio Engineering Society
- 585) Han, J., Zhang, Z., Schmitt, M., Pantic, M., and Schuller, B. (2017d). From Hard to Soft: Towards more Human-like Emotion Recognition by Modelling the Perception Uncertainty. In *Proceedings of the 25. ACM International Conference on Multimedia, MM 2017*, pages 890–897, Mountain View, CA. ACM, ACM. (acceptance rate: 28%)
- 586) Han, J., Zhang, Z., Ringeval, F., and Schuller, B. (2017b). Prediction-based Learning from Continuous Emotion Recognition in Speech. In *Proceedings 42. IEEE International Conference on Acoustics, Speech,*

- and *Signal Processing, ICASSP 2017*, pages 5005–5009, New Orleans, LA. IEEE, IEEE. (acceptance rate: 49 %)
- 587) Han, J., Zhang, Z., Ringeval, F., and Schuller, B. (2017c). Reconstruction-error-based Learning for Continuous Emotion Recognition in Speech. In *Proceedings 42. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2017*, pages 2367–2371, New Orleans, LA. IEEE, IEEE. (acceptance rate: 49 %)
- 588) Hantke, S., Sagha, H., Cummins, N., and Schuller, B. (2017a). Emotional Speech of Mentally and Physically Disabled Individuals: Introducing The EmotAsS Database and First Findings. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 3137–3141, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51 %)
- 589) Hantke, S., Zhang, Z., and Schuller, B. (2017b). Towards Intelligent Crowdsourcing for Audio Data Annotation: Integrating Active Learning in the Real World. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 3951–3955, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51 %)
- 590) Keren, G., Kirschstein, T., Marchi, E., Ringeval, F., and Schuller, B. (2017a). End-to-end learning for dimensional emotion recognition from physiological signals. In *Proceedings 18. IEEE International Conference on Multimedia and Expo, ICME 2017*, pages 985–990, Hong Kong, China. IEEE, IEEE. (acceptance rate: 30 %)
- 591) Keren, G., Sabato, S., and Schuller, B. (2017c). Tunable Sensitivity to Large Errors in Neural Network Training. In *Proceedings of the 31. AAAI Conference on Artificial Intelligence, AAAI 17*, pages 2087–2093, San Francisco, CA. AAAI. (acceptance rate: 25 %)
- 592) Kohlschein, C., Schmitt, M., Schuller, B. W., Jeschke, S., and Werner, C. (2017). A Machine Learning Based System for the Automatic Evaluation of Aphasia Speech. In *Proceedings 2017 IEEE 19. International Conference on e-Health Networking, Applications and Services (Healthcom)*, pages 1–6, Dalian, China. IEEE, IEEE
- 593) Mousa, A. E.-D. and Schuller, B. (2017). Contextual Bidirectional Long Short-Term Memory Recurrent Neural Network Language Models: A Generative Approach to Sentiment Analysis. In *Proceedings EACL 2017, 15. Conference of the European Chapter of the Association for Computational Linguistics*, pages 1023–1032, Valencia, Spain. ACL, ACL. (acceptance rate: 27 % for long papers)
- 594) Parada-Cabaleiro, E., Baird, A. E., Cummins, N., and Schuller, B. (2017c). Stimulation of Psychological Listener Experiences by Semi-Automatically Composed Electroacoustic Environments. In *Proceedings 18. IEEE International Conference on Multimedia and Expo, ICME 2017*, pages 1051–1056, Hong Kong, China. IEEE, IEEE. (acceptance rate: 30 %)
- 595) Parada-Cabaleiro, E., Baird, A., Batliner, A., Cummins, N., Hantke, S., and Schuller, B. (2017a). The Perception of Emotions in Noisified Non-Sense Speech. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 3246–3250, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51 %)
- 596) Parada-Cabaleiro, E., Baird, A. E., Batliner, A., Cummins, N., Hantke, S., and Schuller, B. (2017b). The Perception of Emotion in the Singing Voice. In *Proceedings 4. International Digital Libraries for Musicology workshop (DLfM 2017) at the 18. International Society for Music Information Retrieval Conference, ISMIR 2017*, pages 461–467, Suzhou, China. ISMIR, ISMIR
- 597) Parada-Cabaleiro, E., Batliner, A., Baird, A. E., and Schuller, B. (2017d). The SEILS dataset: Symbolically Encoded Scores in Modern-Ancient Notation for Computational Musicology. In *Proceedings 18. International Society for Music Information Retrieval Conference, ISMIR 2017*, pages 575–581, Suzhou, China. ISMIR, ISMIR
- 598) Pokorny, F., Schuller, B., Marschik, P., Brückner, R., Nyström, P., Cummins, N., Bölte, S., Einspieler, C., and Falck-Ytter, T. (2017a). Earlier Identification of Children with Autism Spectrum Disorder: An Automatic Vocalisation-based Approach. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 309–313, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51 %)
- 599) Qian, K., Janott, C., Deng, J., Heiser, C., Hohenhorst, W., Cummins, N., and Schuller, B. (2017a). Snore Sound Recognition: On Wavelets and Classifiers from Deep Nets to Kernels. In *Proceedings of the 39. Annual International Conference of the IEEE Engineering in Medicine & Biology Society, EMBC 2017*, pages 3737–3740, Jeju Island, South Korea. IEEE, IEEE
- 600) Qian, K., Ren, Z., Pandit, V., Yang, Z., Zhang, Z., and Schuller, B. (2017c). Wavelets Revisited for the Classification of Acoustic Scenes. In *Proceedings of the 2. Detection and Classification of Acoustic Scenes and Events 2017 Workshop (DCASE 2017)*, pages 108–112, Munich, Germany. IEEE, IEEE
- 601) Ren, Z., Qian, K., Pandit, V., Zhang, Z., Yang, Z., and Schuller, B. (2017). Deep Sequential Image Features on Acoustic Scene Classification. In *Proceedings of the 2. Detection and Classification of Acoustic Scenes and Events 2017 Workshop (DCASE 2017)*, pages 113–117, Munich, Germany. IEEE, IEEE
- 602) Ringeval, F., Schuller, B., Valstar, M., Gratch, J., Cowie, R., Scherer, S., Mozgai, S., Cummins, N., Schmitt, M., and Pantic, M. (2017a). AVEC 2017 – Real-life Depression, and Affect Recognition Workshop and Challenge. In *Ringeval, F., Valstar, M., Gratch, J., Schuller, B., Cowie, R., and Pantic, M.,*

- editors, *Proceedings of the 7. International Workshop on Audio/Visual Emotion Challenge, AVEC'17, co-located with the 25. ACM International Conference on Multimedia, MM 2017*, pages 3–9, Mountain View, CA. ACM, ACM
- 603) Ringeval, F., Valstar, M., Gratch, J., Schuller, B., Cowie, R., and Pantic, M. (2017c). Summary for AVEC 2017 – Real-life Depression, and Affect Recognition Workshop and Challenge. In *Proceedings of the 25. ACM International Conference on Multimedia, MM 2017*, pages 1963–1964, Mountain View, CA. ACM, ACM
- 604) Tran, D. L., Walecki, R., Rudovic, O., Eleftheriadis, S., Schuller, B., and Pantic, M. (2017a). DeepCoder: Semi-parametric Autoencoder for Facial Expression Analysis. In *Proceedings International Conference on Computer Vision, ICCV 2017*, pages 3209–3218, Venice, Italy. IEEE, IEEE
- 605) Sabathé, R., Coutinho, E., and Schuller, B. (2017). Deep Recurrent Music Writer: Memory-enhanced Variational Autoencoder-based Musical Score Composition and an Objective Measure. In *Proceedings 30. International Joint Conference on Neural Networks (IJCNN)*, pages 3467–3474, Anchorage, AK. INNS/IEEE, IEEE. (acceptance rate: 67%)
- 606) Sagha, H., Schmitt, M., Povolny, F., Giefer, A., and Schuller, B. (2017c). Predicting the popularity of a talk-show based on its emotional speech content before publication. In *Proceedings 3. International Workshop on Affective Social Multimedia Computing, INTERSPEECH 2017 Satellite Workshop, ASMMC 2017*, Stockholm, Sweden. ISCA, ISCA. 5 pages
- 607) Sagha, H., Deng, J., and Schuller, B. (2017b). The effect of personality trait, age, and gender on the performance of automatic speech valence recognition. In *Proceedings 7. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, pages 86–91, San Antonio, TX. AAAC, IEEE. (acceptance rate: 50%)
- 608) Sánchez-Rada, J. F., Iglesias, C. A., Sagha, H., Wood, I., Schuller, B., and Buitelaar, P. (2017). Multimodal Multimodel Emotion Analysis as Linked Data. In *Proceedings 3. International Workshop on Emotion and Sentiment in Social and Expressive Media (ESSEM 2017), held in conjunction with the 7. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, San Antonio, TX. AAAC, IEEE. 111-116
- 609) Schmitt, M. and Schuller, B. (2017b). Recognising Guitar Effects – Which Acoustic Features Really Matter? In Eibl, M. and Gaedke, M., editors, *Proceedings INFORMATIK 2017, Lecture Notes in Informatics (LNI)*, pages 177–190, Chemnitz, Germany. GI, GI
- 610) Vlasenko, B., Sagha, H., Cummins, N., and Schuller, B. (2017). Implementing gender-dependent vowel-level analysis for boosting speech-based depression recognition. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 3266–3270, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51%)
- 611) Walecki, R., Rudovic, O., Pavlovic, V., Schuller, B., and Pantic, M. (2017b). Deep Structured Ordinal Regression for Facial Action Unit Intensity Estimation. In *Proceedings IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2017*, Honolulu, HI. IEEE, IEEE. (acceptance rate: 20%)
- 612) Zhang, Y., McGehee, W., Schmitt, M., Eyben, F., and Schuller, B. (2017b). A Paralinguistic Approach To Holistic Speaker Diarisation – Using Age, Gender, Voice Likability and Personality Traits. In *Proceedings of the 25. ACM International Conference on Multimedia, MM 2017*, pages 387–392, Mountain View, CA. ACM, ACM. (acceptance rate: 28%)
- 613) Zhang, Y., Weninger, F., and Schuller, B. (2017c). Cross-Domain Classification of Drowsiness in Speech: The Case of Alcohol Intoxication and Sleep Deprivation. In *Proceedings INTERSPEECH 2017, 18. Annual Conference of the International Speech Communication Association*, pages 3152–3156, Stockholm, Sweden. ISCA, ISCA. (acceptance rate: 51%)
- 614) Strömfelt, H. S. O., Zhang, Y., and Schuller, B. (2017). Emotion-Augmented Machine Learning: Overview of an Emerging Domain. In *Proceedings 7. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2017)*, pages 305–312, San Antonio, TX. AAAC, IEEE. (acceptance rate oral: 27%)
- 615) Zhang, Y., Liu, Y., Weninger, F., and Schuller, B. (2017a). Multi-Task Deep Neural Network with Shared Hidden Layers: Breaking Down the Wall between Emotion Representations. In *Proceedings 42. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2017*, pages 4990–4994, New Orleans, LA. IEEE, IEEE. (acceptance rate: 49%)
- 616) Zhang, Z., Weninger, F., Wöllmer, M., Han, J., and Schuller, B. (2017g). Towards Intoxicated Speech Recognition. In *Proceedings 30. International Joint Conference on Neural Networks (IJCNN)*, pages 1555–1559, Anchorage, AK. INNS/IEEE, IEEE. (acceptance rate: 67%)
- 617) Schuller, B. (2016a). 7 Essential Principles to Make Multimodal Sentiment Analysis Work in the Wild. In Bandyopadhyay, S., Das, D., Cambria, E., and Patra, B. G., editors, *Proceedings of the 4. Workshop on Sentiment Analysis where AI meets Psychology (SAAIP 2016), satellite of the 25. International Joint Conference on Artificial Intelligence, IJCAI 2016*, volume 1619, page 1, New York City, NY. IJCAI/AAAI, CEUR. invited contribution
- 618) Schuller, B., Ganascia, J.-G., and Devillers, L. (2016a). Multimodal Sentiment Analysis in the Wild: Ethical considerations on Data Collection, Annotation, and Exploitation. In Devillers, L., Schuller, B., Mower Provost, E., Robinson, P., Mariani, J., and Delaborde, A., editors, *Proceedings 1. International*

- Workshop on ETHics In Corpus Collection, Annotation and Application (ETHI-CA<sup>2</sup> 2016), satellite of the 10. Language Resources and Evaluation Conference (LREC 2016)*, pages 29–34, Portoroz, Slovenia. ELRA, ELRA
- 619) Schuller, B. and McTear, M. (2016). Sociocognitive Language Processing – Emphasising the Soft Factors. In *Proceedings of the Seventh International Workshop on Spoken Dialogue Systems (IWSDS)*, Saariselkä, Finland. 6 pages
- 620) Schuller, B., Steidl, S., Batliner, A., Hirschberg, J., Burgoon, J. K., Baird, A., Elkins, A., Zhang, Y., Coutinho, E., and Evanini, K. (2016b). The INTERSPEECH 2016 Computational Paralinguistics Challenge: Deception, Sincerity & Native Language. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 2001–2005, San Francisco, CA. ISCA, ISCA. (acceptance rate: 50 %)
- 621) Abdić, I., Fridman, L., McDuff, D., Marchi, E., Reimer, B., and Schuller, B. (2016b). Driver Frustration Detection From Audio and Video. In *Proceedings of the 25. International Joint Conference on Artificial Intelligence, IJCAI 2016*, pages 1354–1360, New York City, NY. IJCAI/AAAI. (acceptance rate: 25 %)
- 622) Abdić, I., Fridman, L., Brown, D. E., Angell, W., Reimer, B., Marchi, E., and Schuller, B. (2016a). Detecting Road Surface Wetness from Audio: A Deep Learning Approach. In *Proceedings 23. International Conference on Pattern Recognition (ICPR 2016)*, pages 3458–3463, Cancun, Mexico. IAPR, IAPR
- 623) Abdić, I., Fridman, L., McDuff, D., Marchi, E., Reimer, B., and Schuller, B. (2016c). Driver Frustration Detection From Audio and Video (Extended Abstract). In Friedrich, G., Helmert, M., and Wotawa, F., editors, *KI 2016: Advances in Artificial Intelligence 39. Annual German Conference on AI*, volume LNCS Volume 9904/2016, pages 237–243, Klagenfurt, Austria. GFI / ÖGAI, Springer. (acceptance rate: 45 %)
- 624) Amiriparian, S., Pohjalainen, J., Marchi, E., Pugachevskiy, S., and Schuller, B. (2016). Is deception emotional? An emotion-driven predictive approach. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 2011–2015, San Francisco, CA. ISCA, ISCA. nominated for best student paper award (12 nominations for 3 awards, acceptance rate overall conference: 50 %)
- 625) Cambria, E., Poria, S., Bajpai, R., and Schuller, B. (2016a). SenticNet4: A Semantic Resource for Sentiment Analysis Based on Conceptual Primitives. In *Proceedings of the 26. International Conference on Computational Linguistics, COLING*, pages 2666–2677, Osaka, Japan. ICCL, ANLP
- 626) Coutinho, E., Hönl, F., Zhang, Y., Hantke, S., Batliner, A., Nöth, E., and Schuller, B. (2016). Assessing the Prosody of Non-Native Speakers of English: Measures and Feature Sets. In *Proceedings 10. Language Resources and Evaluation Conference (LREC 2016)*, pages 1328–1332, Portoroz, Slovenia. ELRA, ELRA
- 627) Deng, J., Cummins, N., Han, J., Xu, X., Ren, Z., Pandit, V., Zhang, Z., and Schuller, B. (2016a). The University of Passau Open Emotion Recognition System for the Multimodal Emotion Challenge. In *Proceedings of the 7. Chinese Conference on Pattern Recognition, CCPR*, pages 652–666, Chengdu, China. Springer
- 628) Dong, B., Zhang, Z., and Schuller, B. (2016). Empirical Mode Decomposition: A Data-Enrichment Perspective on Speech Emotion Recognition. In Sánchez-Rada, J. F. and Schuller, B., editors, *Proceedings 6. International Workshop on Emotion and Sentiment Analysis (ESA 2016), satellite of the 10. Language Resources and Evaluation Conference (LREC 2016)*, pages 71–75, Portoroz, Slovenia. ELRA, ELRA. (acceptance rate: 74 %)
- 629) Guo, J., Qian, K., Xu, H., Janott, C., Schuller, B. W., and Matsuoka, S. (2016). GPU-Based Fast Signal Processing for Large Amounts of Snore Sound Data. In *Proceedings IEEE 5. Global Conference on Consumer Electronics, GCCE 2016*, pages 523–524, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 66 %)
- 630) Hantke, S., Batliner, A., and Schuller, B. (2016a). Ethics for Crowdsourced Corpus Collection, Data Annotation and its Application in the Web-based Game iHEARu-PLAY. In Devillers, L., Schuller, B., Mower Provost, E., Robinson, P., Mariani, J., and Delaborde, A., editors, *Proceedings 1. International Workshop on ETHics In Corpus Collection, Annotation and Application (ETHI-CA<sup>2</sup> 2016), satellite of the 10. Language Resources and Evaluation Conference (LREC 2016)*, pages 54–59, Portoroz, Slovenia. ELRA, ELRA. (oral acceptance rate: 45 %)
- 631) Hantke, S., Marchi, E., and Schuller, B. (2016b). Introducing the Weighted Trustability Evaluator for Crowdsourcing Exemplified by Speaker Likability Classification. In *Proceedings 10. Language Resources and Evaluation Conference (LREC 2016)*, pages 2156–2161, Portoroz, Slovenia. ELRA, ELRA
- 632) Keren, G., Deng, J., Pohjalainen, J., and Schuller, B. (2016a). Convolutional Neural Networks and Data Augmentation for Classifying Speakers’ Native Language. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 2393–2397, San Francisco, CA. ISCA, ISCA. (acceptance rate: 50 %)
- 633) Keren, G. and Schuller, B. (2016a). Convolutional RNN: an Enhanced Model for Extracting Features from Sequential Data. In *Proceedings 2016 International Joint Conference on Neural Networks (IJCNN) as part of the IEEE World Congress on Computational Intelligence (IEEE WCCI)*, pages 3412–3419, Vancouver, Canada. INNS/IEEE, IEEE
- 634) Li, Y., Tao, J., Schuller, B., Shan, S., Jiang, D., and Jia, J. (2016). MEC 2016: The Multimodal Emotion Recognition Challenge of CCPR 2016. In *Proceedings*

- of the 7. Chinese Conference on Pattern Recognition, CCPR, pages 667–678, Chengdu, China. Springer
- 635) Marchi, E., Tonelli, D., Xu, X., Ringeval, F., Deng, J., Squartini, S., and Schuller, B. (2016c). Pairwise Decomposition with Deep Neural Networks and Multiscale Kernel Subspace Learning for Acoustic Scene Classification. In *Proceedings of the Detection and Classification of Acoustic Scenes and Events 2016 IEEE AASP Challenge Workshop (DCASE 2016), satellite to EUSIPCO 2016*, pages 1–5, Budapest, Hungary. EUSIPCO, IEEE
- 636) Marchi, E., Eyben, F., Hagerer, G., and Schuller, B. W. (2016a). Real-time Tracking of Speakers’ Emotions, States, and Traits on Mobile Platforms. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 1182–1183, San Francisco, CA. ISCA, ISCA. Show & Tell demonstration (acceptance rate: 50 %)
- 637) Marchi, E., Tonelli, D., Xu, X., Ringeval, F., Deng, J., Squartini, S., and Schuller, B. (2016d). The UP System for the 2016 DCASE Challenge using Deep Recurrent Neural Network and Multiscale Kernel Subspace Learning. In *Proceedings of the Detection and Classification of Acoustic Scenes and Events 2016 IEEE AASP Challenge Workshop (DCASE 2016), satellite to EUSIPCO 2016*, Budapest, Hungary. EUSIPCO, IEEE. 1 page
- 638) Mousa, A. E.-D. and Schuller, B. (2016). Deep Bidirectional Long Short-Term Memory Recurrent Neural Networks for Grapheme-to-Phoneme Conversion utilizing Complex Many-to-Many Alignments. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 2836–2840, San Francisco, CA. ISCA, ISCA. (acceptance rate: 50 %)
- 639) Pokorný, F. B., Marschik, P. B., Einspieler, C., and Schuller, B. W. (2016a). Does She Speak RTT? Towards an Earlier Identification of Rett Syndrome Through Intelligent Pre-linguistic Vocalisation Analysis. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 1953–1957, San Francisco, CA. ISCA, ISCA. (acceptance rate: 50 %)
- 640) Pokorný, F. B., Peharz, R., Roth, W., Zohrer, M., Pernkopf, F., Marschik, P. B., and Schuller, B. W. (2016b). Manual Versus Automated: The Challenging Routine of Infant Vocalisation Segmentation in Home Videos to Study Neuro(mal)development. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 2997–3001, San Francisco, CA. ISCA, ISCA. (acceptance rate: 50 %)
- 641) Qian, K., Janott, C., Zhang, Z., Heiser, C., and Schuller, B. (2016). Wavelet Features for Classification of VOTE Snore Sounds. In *Proceedings 41. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, pages 221–225, Shanghai, China. IEEE, IEEE. (acceptance rate: 45 %)
- 642) Pantic, M., Evers, V., Deisenroth, M., Merino, L., and Schuller, B. (2016). Social and Affective Robotics Tutorial. In *Proceedings of the 24. ACM International Conference on Multimedia, MM 2016*, pages 1477–1478, Amsterdam, The Netherlands. ACM, ACM. (acceptance rate short paper: 30 %)
- 643) Pohjalainen, J., Ringeval, F., Zhang, Z., and Schuller, B. (2016). Spectral and Cepstral Audio Noise Reduction Techniques in Speech Emotion Recognition. In *Proceedings of the 24. ACM International Conference on Multimedia, MM 2016*, pages 670–674, Amsterdam, The Netherlands. ACM, ACM. (acceptance rate short paper: 30 %)
- 644) Ringeval, F., Marchi, E., Grossard, C., Xavier, J., Chetouani, M., Cohen, D., and Schuller, B. (2016). Automatic Analysis of Typical and Atypical Encoding of Spontaneous Emotion in the Voice of Children. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 1210–1214, San Francisco, CA. ISCA, ISCA. (acceptance rate: 50 %)
- 645) Rynkiewicz, A., Schuller, B., Marchi, E., Piana, S., Camurri, A., Lassalle, A., and Baron-Cohen, S. (2016b). An Investigation of the ‘Female Camouflage Effect’ in Autism Using a New Computerized Test Showing Sex/Gender Differences during ADOS-2. In *Proceedings 15. Annual International Meeting For Autism Research (IMFAR 2016)*, Baltimore, MD. International Society for Autism Research (INSAR), INSAR. 1 page
- 646) Sagha, H., Deng, J., Gavryukova, M., Han, J., and Schuller, B. (2016a). Cross Lingual Speech Emotion Recognition using Canonical Correlation Analysis on Principal Component Subspace. In *Proceedings 41. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, pages 5800–5804, Shanghai, China. IEEE, IEEE. (acceptance rate: 45 %)
- 647) Sagha, H., Matejka, P., Gavryukova, M., Povolny, F., Marchi, E., and Schuller, B. (2016c). Enhancing multilingual recognition of emotion in speech by language identification. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 2949–2953, San Francisco, CA. ISCA, ISCA. (acceptance rate: 50 %)
- 648) Sánchez-Rada, J. F., Schuller, B., Patti, V., Buitelaar, P., Vulcu, G., Burkhardt, F., Clavel, C., Petychakis, M., and Iglesias, C. A. (2016). Towards a Common Linked Data Model for Sentiment and Emotion Analysis. In Sánchez-Rada, J. F. and Schuller, B., editors, *Proceedings 6. International Workshop on Emotion and Sentiment Analysis (ESA 2016), satellite of the 10. Language Resources and Evaluation Conference (LREC 2016)*, pages 48–54, Portoroz, Slovenia. ELRA, ELRA. (acceptance rate: 42 % for long papers)
- 649) Schmitt, M., Janott, C., Pandit, V., Qian, K., Heiser,

- C., Hemmert, W., and Schuller, B. (2016a). A Bag-of-Audio-Words Approach for Snore Sounds' Excitation Localisation. In *Proceedings 12th ITG Conference on Speech Communication*, volume 267 of *ITG-Fachbericht*, pages 230–234, Paderborn, Germany. ITG/VDE, IEEE/VDE. nominated for best student paper award (4 nominations for 2 awards)
- 650) Schmitt, M., Ringeval, F., and Schuller, B. (2016c). At the Border of Acoustics and Linguistics: Bag-of-Audio-Words for the Recognition of Emotions in Speech. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 495–499, San Francisco, CA. ISCA, ISCA. (acceptance rate: 50 %)
- 651) Schmitt, M., Marchi, E., Ringeval, F., and Schuller, B. (2016b). Towards Cross-lingual Automatic Diagnosis of Autism Spectrum Condition in Children's Voices. In *Proceedings 12th ITG Conference on Speech Communication*, volume 267 of *ITG-Fachbericht*, pages 264–268, Paderborn, Germany. ITG/VDE, IEEE/VDE
- 652) Telespan, M. and Schuller, B. (2016). Audio Watermarking Based on Empirical Mode Decomposition and Beat Detection. In *Proceedings 41. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, pages 2124–2128, Shanghai, China. IEEE, IEEE. (acceptance rate: 45 %)
- 653) Trigeorgis, G., Ringeval, F., Brückner, R., Marchi, E., Nicolaou, M., Schuller, B., and Zafeiriou, S. (2016b). Adieu Features? End-to-End Speech Emotion Recognition using a Deep Convolutional Recurrent Network. In *Proceedings 41. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, pages 5200–5204, Shanghai, China. IEEE, IEEE. winner of the IEEE Spoken Language Processing Student Travel Grant 2016 (acceptance rate: 45 %)
- 654) Trigeorgis, G., Nicolaou, M. A., Schuller, B., and Zafeiriou, S. (2016a). Deep Canonical Time Warping. In *Proceedings IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2016*, pages 5110–5118, Las Vegas, NV. IEEE, IEEE. (acceptance rate: 25 %)
- 655) Valstar, M., Gratch, J., Schuller, B., Ringeval, F., Lalanne, D., Torres Torres, M., Scherer, S., Stratou, G., Cowie, R., and Pantic, M. (2016d). AVEC 2016: Depression, Mood, and Emotion Recognition Workshop and Challenge. In Valstar, M., Gratch, J., Schuller, B., Ringeval, F., Cowie, R., and Pantic, M., editors, *Proceedings of the 6. International Workshop on Audio/Visual Emotion Challenge, AVEC'16, collocated with the 24. ACM International Conference on Multimedia, MM 2016*, pages 3–10, Amsterdam, The Netherlands. ACM, ACM
- 656) Valstar, M., Pelachaud, C., Heylen, D., Cafaro, A., Dermouche, S., Ghitulescu, A., André, E., Baur, T., Wagner, J., Durieu, L., Aylett, M., Blaise, P., Coutinho, E., Schuller, B., Zhang, Y., Theune, M., and van Waterschoot, J. (2016e). Ask Alice; an Artificial Retrieval of Information Agent. In Morency, L.-P., Busso, C., and Pelachaud, C., editors, *Proceedings of the 18. ACM International Conference on Multimodal Interaction, ICMI*, pages 419–420, Tokyo, Japan. ACM, ACM
- 657) Valstar, M., Gratch, J., Schuller, B., Ringeval, F., Cowie, R., and Pantic, M. (2016b). Summary for AVEC 2016: Depression, Mood, and Emotion Recognition Workshop and Challenge. In *Proceedings of the 24. ACM International Conference on Multimedia, MM 2016*, pages 1483–1484, Amsterdam, The Netherlands. ACM, ACM. (acceptance rate short paper: 30 %)
- 658) Vlasenko, B., Schuller, B., and Wendemuth, A. (2016). Tendencies Regarding the Effect of Emotional Intensity in Inter Corpus Phoneme-Level Speech Emotion Modelling. In *Proceedings 2016 IEEE International Workshop on Machine Learning for Signal Processing, MLSP*, pages 1–6, Salerno, Italy. IEEE, IEEE
- 659) Wegener, R., Kohlschein, C., Jeschke, S., and Schuller, B. (2016). Automatic Detection of Textual Triggers of Reader Emotion in Short Stories. In Sánchez-Rada, J. F. and Schuller, B., editors, *Proceedings 6. International Workshop on Emotion and Sentiment Analysis (ESA 2016), satellite of the 10. Language Resources and Evaluation Conference (LREC 2016)*, pages 80–84, Portoroz, Slovenia. ELRA, ELRA. (acceptance rate: 74 %)
- 660) Weninger, F., Ringeval, F., Marchi, E., and Schuller, B. (2016a). Discriminatively trained recurrent neural networks for continuous dimensional emotion recognition from audio. In *Proceedings of the 25. International Joint Conference on Artificial Intelligence, IJCAI 2016*, pages 2196–2202, New York City, NY. IJCAI/AAAI. (acceptance rate: 25 %)
- 661) Weninger, F., Ringeval, F., Marchi, E., and Schuller, B. (2016b). Discriminatively Trained Recurrent Neural Networks for Continuous Dimensional Emotion Recognition from Audio (Extended Abstract). In Friedrich, G., Helmert, M., and Wotawa, F., editors, *KI 2016: Advances in Artificial Intelligence 39. Annual German Conference on AI*, volume LNCS Volume 9904/2016, pages 310–315, Klagenfurt, Austria. GfI / ÖGAI, Springer. (acceptance rate: 45 %)
- 662) Xu, X., Deng, J., Gavryukova, M., Zhang, Z., Zhao, L., and Schuller, B. (2016). Multiscale Kernel Locally Penalised Discriminant Analysis Exemplified by Emotion Recognition in Speech. In Morency, L.-P., Busso, C., and Pelachaud, C., editors, *Proceedings of the 18. ACM International Conference on Multimodal Interaction, ICMI*, pages 233–237, Tokyo, Japan. ACM, ACM
- 663) Zhang, Z., Ringeval, F., Dong, B., Coutinho, E., Marchi, E., and Schuller, B. (2016d). Enhanced Semi-Supervised Learning for Multimodal Emotion



- Recognition. In *Proceedings 41. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, pages 5185–5189, Shanghai, China. IEEE, IEEE. (acceptance rate: 45%)
- 664) Zhang, Z., Ringeval, F., Han, J., Deng, J., Marchi, E., and Schuller, B. (2016e). Facing Realism in Spontaneous Emotion Recognition from Speech: Feature Enhancement by Autoencoder with LSTM Neural Networks. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 3593–3597, San Francisco, CA. ISCA, ISCA. (acceptance rate: 50%)
- 665) Zhang, Y., Weninger, F., Batliner, A., Hönl, F., and Schuller, B. (2016a). Language Proficiency Assessment of English L2 Speakers Based on Joint Analysis of Prosody and Native Language. In Morency, L.-P., Busso, C., and Pelachaud, C., editors, *Proceedings of the 18. ACM International Conference on Multimodal Interaction, ICMI*, pages 274–278, Tokyo, Japan. ACM, ACM
- 666) Zhang, Y., Weninger, F., Ren, Z., and Schuller, B. (2016b). Sincerity and Deception in Speech: Two Sides of the Same Coin? A Transfer- and Multi-Task Learning Perspective. In *Proceedings INTERSPEECH 2016, 17. Annual Conference of the International Speech Communication Association*, pages 2041–2045, San Francisco, CA. ISCA, ISCA. (acceptance rate: 50%)
- 667) Zhang, Y., Zhou, Y., Shen, J., and Schuller, B. (2016c). Semi-autonomous Data Enrichment Based on Cross-task Labelling of Missing Targets for Holistic Speech Analysis. In *Proceedings 41. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2016*, pages 6090–6094, Shanghai, China. IEEE, IEEE. (acceptance rate: 45%)
- 668) Zhang, Y. and Schuller, B. (2016). Towards Human-Like Holistic Machine Perception of Speaker States and Traits. In *Proceedings of the Human-Like Computing Machine Intelligence Workshop, MI20-HLC*, Windsor, U.K. Springer. 3 pages
- 669) Deng, J., Xu, X., Zhang, Z., Frühholz, S., Grandjean, D., and Schuller, B. (2016b). Fisher Kernels on Phase-based Features for Speech Emotion Recognition. In *Proceedings of the Seventh International Workshop on Spoken Dialogue Systems (IWSDS)*, Saariselkä, Finland. Springer. 6 pages
- 670) Schuller, B., Vlasenko, B., Eyben, F., Wöllmer, M., Stuhlsatz, A., Wendemuth, A., and Rigoll, G. (2015f). Cross-Corpus Acoustic Emotion Recognition: Variances and Strategies (Extended Abstract). In *Proceedings 6. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, pages 470–476, Xi'an, China. AAAC, IEEE. invited for the Special Session on Most Influential Articles in IEEE Transactions on Affective Computing
- 671) Schuller, B., Marchi, E., Baron-Cohen, S., Lassalle, A., O'Reilly, H., Pigat, D., Robinson, P., Davies, I., Baltrusaitis, T., Mahmoud, M., Golan, O., Friedenson, S., Tal, S., Newman, S., Meir, N., Shillo, R., Camurri, A., Piana, S., Staglianò, A., Bölte, S., Lundqvist, D., Berggren, S., Baranger, A., Sullings, N., Sezgin, M., Alyuz, N., Rynkiewicz, A., Ptaszek, K., and Ligmann, K. (2015a). Recent developments and results of ASC-Inclusion: An Integrated Internet-Based Environment for Social Inclusion of Children with Autism Spectrum Conditions. In Paletta, L., Schuller, B., Robinson, P., and Sabouret, N., editors, *Proceedings of the 3. International Workshop on Intelligent Digital Games for Empowerment and Inclusion (IDGEI 2015) as part of the 20. ACM International Conference on Intelligent User Interfaces, IUI 2015*, Atlanta, GA. ACM, ACM. 9 pages, best paper award (long talk acceptance rate: 36%)
- 672) Schuller, B. (2015h). Speech Analysis in the Big Data Era. In *Text, Speech, and Dialogue – Proceedings of the 18. International Conference on Text, Speech and Dialogue, TSD 2015*, volume 9302 of *Lecture Notes in Computer Science (LNCS)*, pages 3–11. Springer. satellite event of INTERSPEECH 2015, invited contribution (acceptance rate: 50%)
- 673) Schuller, B., Steidl, S., Batliner, A., Hantke, S., Hönl, F., Orozco-Arroyave, J. R., Nöth, E., Zhang, Y., and Weninger, F. (2015c). The INTERSPEECH 2015 Computational Paralinguistics Challenge: Degree of Nateness, Parkinson's & Eating Condition. In *Proceedings INTERSPEECH 2015, 16. Annual Conference of the International Speech Communication Association*, pages 478–482, Dresden, Germany. ISCA, ISCA. (acceptance rate: 51%)
- 674) Azaïs, L., Payan, A., Sun, T., Vidal, G., Zhang, T., Coutinho, E., Eyben, F., and Schuller, B. (2015). Does my Speech Rock? Automatic Assessment of Public Speaking Skills. In *Proceedings INTERSPEECH 2015, 16. Annual Conference of the International Speech Communication Association*, pages 2519–2523, Dresden, Germany. ISCA, ISCA. (acceptance rate: 51%)
- 675) Coutinho, E., Trigeorgis, G., Zafeiriou, S., and Schuller, B. (2015). Automatically Estimating Emotion in Music with Deep Long-Short Term Memory Recurrent Neural Networks. In Larson, M., Ionescu, B., Sjöberg, M., Anguera, X., Poignant, J., Riegler, M., Eskevich, M., Hauff, C., Sutcliffe, R., Jones, G. J., Yang, Y.-H., Soleymani, M., and Papadopoulos, S., editors, *Proceedings MediaEval 2015 Multimedia Benchmark Workshop, satellite of Interspeech 2015*, volume 1436, Wurzen, Germany. CEUR. 3 pages
- 676) Deng, J., Zhang, Z., Eyben, F., and Schuller, B. (2015). Autoencoder-based Unsupervised Domain Adaptation for Speech Emotion Recognition. In *Proceedings 40. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2015*, pages 1068–1072, Brisbane, Australia. IEEE, IEEE
- 677) Eyben, F., Huber, B., Marchi, E., Schuller, D., and Schuller, B. (2015a). Robust Real-time Affect Analy-



- sis and Speaker Characterisation on Mobile Devices. In *Proceedings 6. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, pages 778–780, Xi’an, China. AAAC, IEEE. (acceptance rate: 55 %)
- 678) Feraru, S., Schuller, D., and Schuller, B. (2015). Cross-Language Acoustic Emotion Recognition: An Overview and Some Tendencies. In *Proceedings 6. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, pages 125–131, Xi’an, China. AAAC, IEEE. (acceptance rate oral: 28 %)
- 679) Gentsch, K., Coutinho, E., Eyben, F., Schuller, B., and Scherer, K. R. (2015). Classifying Emotion-Antecedent Appraisal in Brain Activity using Machine Learning Methods. In *Proceedings of the International Society for Research on Emotions Conference (ISRE 2015)*, Geneva, Switzerland. ISRE, ISRE. 1 page
- 680) Hantke, S., Eyben, F., Appel, T., and Schuller, B. (2015). iHEARu-PLAY: Introducing a game for crowdsourced data collection for affective computing. In *Proceedings 1. International Workshop on Automatic Sentiment Analysis in the Wild (WASA 2015) held in conjunction with the 6. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, pages 891–897, Xi’an, China. AAAC, IEEE. (acceptance rate: 60 %)
- 681) Marchi, E., Vesperini, F., Eyben, F., Squartini, S., and Schuller, B. (2015c). A Novel Approach for Automatic Acoustic Novelty Detection Using a Denoising Autoencoder with Bidirectional LSTM Neural Networks. In *Proceedings 40. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2015*, pages 1996–2000, Brisbane, Australia. IEEE, IEEE
- 682) Marchi, E., Vesperini, F., Weninger, F., Eyben, F., Squartini, S., and Schuller, B. (2015d). Non-Linear Prediction with LSTM Recurrent Neural Networks for Acoustic Novelty Detection. In *Proceedings 2015 International Joint Conference on Neural Networks (IJCNN)*, Killarney, Ireland. INNS/IEEE, IEEE
- 683) Marchi, E., Schuller, B., Baron-Cohen, S., Golan, O., Bölte, S., Arora, P., and Häb-Umbach, R. (2015a). Typicality and Emotion in the Voice of Children with Autism Spectrum Condition: Evidence Across Three Languages. In *Proceedings INTERSPEECH 2015, 16. Annual Conference of the International Speech Communication Association*, pages 115–119, Dresden, Germany. ISCA, ISCA. (acceptance rate: 51 %)
- 684) Marchi, E., Schuller, B., Baron-Cohen, S., Lassalle, A., O’Reilly, H., Pigat, D., Golan, O., Friedenson, S., Tal, S., Bölte, S., Berggren, S., Lundqvist, D., and Elfström, M. S. (2015b). Voice Emotion Games: Language and Emotion in the Voice of Children with Autism Spectrum Condition. In Paletta, L., Schuller, B., Robinson, P., and Sabouret, N., editors, *Proceedings of the 3. International Workshop on Intelligent Digital Games for Empowerment and Inclusion (IDGEI 2015) as part of the 20. ACM International Conference on Intelligent User Interfaces, IUI 2015*, Atlanta, GA. ACM, ACM. 9 pages (long talk acceptance rate: 36 %)
- 685) Metallinou, A., Wöllmer, M., Katsamanis, A., Eyben, F., Schuller, B., and Narayanan, S. (2015). Context-Sensitive Learning for Enhanced Audiovisual Emotion Classification (Extended Abstract). In *Proceedings 6. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, pages 463–469, Xi’an, China. AAAC, IEEE. invited for the Special Session on Most Influential Articles in IEEE Transactions on Affective Computing
- 686) Newman, S., Golan, O., Baron-Cohen, S., Bölte, S., Rynkiewicz, A., Baranger, A., Schuller, B., Robinson, P., Camurri, A., Sezgin, M., Meir-Goren, N., Tal, S., Friedenson-Hayo, S., Lassalle, A., Berggren, S., Sullings, N., Pigat, D., Ptaszek, K., Marchi, E., Piana, S., and Baltrusaitis, T. (2015). ASC-Inclusion – a Virtual World Teaching Children with ASC about Emotions. In *Proceedings 14. Annual International Meeting For Autism Research (IMFAR 2015)*, Salt Lake City, UT. International Society for Autism Research (INSAR), INSAR. 1 page
- 687) Pohl, P. and Schuller, B. (2015). Digital Analysis of Vocal Operants. In *Proceedings 2015 Meeting of the Experimental Analysis of Behaviour Group (EABG)*, London, UK. EABG, EABG. 1 pager
- 688) Pokorny, F., Graf, F., Pernkopf, F., and Schuller, B. (2015). Detection of Negative Emotions in Speech Signals Using Bags-of-Audio-Words. In *Proceedings 1. International Workshop on Automatic Sentiment Analysis in the Wild (WASA 2015) held in conjunction with the 6. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, pages 879–884, Xi’an, China. AAAC, IEEE. (acceptance rate: 60 %)
- 689) Qian, K., Zhang, Z., Ringeval, F., and Schuller, B. (2015). Bird Sounds Classification by Large Scale Acoustic Features and Extreme Learning Machine. In *Proceedings 3. IEEE Global Conference on Signal and Information Processing, GlobalSIP, Machine Learning Applications in Speech Processing Symposium*, pages 1317–1321, Orlando, FL. IEEE, IEEE. (acceptance rate: 45 %)
- 690) Ringeval, F., Marchi, E., Méhu, M., Scherer, K., and Schuller, B. (2015b). Face Reading from Speech – Predicting Facial Action Units from Audio Cues. In *Proceedings INTERSPEECH 2015, 16. Annual Conference of the International Speech Communication Association*, pages 1977–1981, Dresden, Germany. ISCA, ISCA. (acceptance rate: 51 %)
- 691) Ringeval, F., Schuller, B., Valstar, M., Cowie, R., and Pantic, M. (2015d). AVEC 2015: The 5. International Audio/Visual Emotion Challenge and Workshop. In *Proceedings of the 23. ACM International Conference on Multimedia, MM 2015*, pages 1335–1336, Brisbane,

- Australia. ACM, ACM. (acceptance rate: 25%)
- 692) Ringeval, F., Schuller, B., Valstar, M., Jaiswal, S., Marchi, E., Lalanne, D., Cowie, R., and Pantic, M. (2015f). AV+EC 2015 – The First Affect Recognition Challenge Bridging Across Audio, Video, and Physiological Data. In Ringeval, F., Schuller, B., Valstar, M., Cowie, R., and Pantic, M., editors, *Proceedings of the 5. International Workshop on Audio/Visual Emotion Challenge, AVEC'15, co-located with the 23. ACM International Conference on Multimedia, MM 2015*, pages 3–8, Brisbane, Australia. ACM, ACM
- 693) Sabouret, N., Schuller, B., Paletta, L., Marchi, E., Jones, H., and Youssef, A. B. (2015). Intelligent User Interfaces in Digital Games for Empowerment and Inclusion. In *Proceedings of the 12th International Conference on Advancement in Computer Entertainment Technology, ACE 2015*, Iskandar, Malaysia. ACM, ACM. 8 pages, Gold Paper Award
- 694) Sagha, H., Coutinho, E., and Schuller, B. (2015). The importance of individual differences in the prediction of emotions induced by music. In Ringeval, F., Schuller, B., Valstar, M., Cowie, R., and Pantic, M., editors, *Proceedings of the 5. International Workshop on Audio/Visual Emotion Challenge, AVEC'15, co-located with the 23. ACM International Conference on Multimedia, MM 2015*, pages 57–63, Brisbane, Australia. ACM, ACM. (acceptance rate: 60%)
- 695) Schröder, M., Bevacqua, E., Cowie, R., Eyben, F., Gunes, H., Heylen, D., ter Maat, M., McKeown, G., Pammi, S., Pantic, M., Pelachaud, C., Schuller, B., de Sevin, E., Valstar, M., and Wöllmer, M. (2015). Building Autonomous Sensitive Artificial Listeners (Extended Abstract). In *Proceedings 6. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, pages 456–462, Xi'an, China. AAAC, IEEE. invited for the Special Session on Most Influential Articles in IEEE Transactions on Affective Computing
- 696) Trigeorgis, G., Coutinho, E., Ringeval, F., Marchi, E., Zafeiriou, S., and Schuller, B. (2015b). The ICL-TUM-PASSAU approach for the MediaEval 2015 “Affective Impact of Movies” Task. In Larson, M., Ionescu, B., Sjöberg, M., Anguera, X., Poignant, J., Riegler, M., Eskevich, M., Hauff, C., Sutcliffe, R., Jones, G. J., Yang, Y.-H., Soleymani, M., and Papadopoulos, S., editors, *Proceedings MediaEval 2015 Multimedia Benchmark Workshop, satellite of Interspeech 2015*, volume 1436, Wurzen, Germany. CEUR. 3 pages, best result
- 697) Trigeorgis, G., Nicolaou, M. A., Zafeiriou, S., and Schuller, B. (2015c). Towards Deep Alignment of Multimodal Data. In *Proceedings 2015 Multimodal Machine Learning Workshop held in conjunction with NIPS 2015 (MMML@NIPS)*, Montréal, QC. NIPS, NIPS. 4 pages
- 698) Weninger, F., Erdogan, H., Watanabe, S., Vincent, E., Le Roux, J., Hershey, J. R., and Schuller, B. (2015b). Speech Enhancement with LSTM Recurrent Neural Networks and its Application to Noise-Robust ASR. In Vincent, E., Yeredor, A., Koldovsk?, Z., and Tichavsk?, P., editors, *Latent Variable Analysis and Signal Separation – Proceedings 12th International Conference on Latent Variable Analysis and Signal Separation, LVA/ICA 2015*, volume 9237 of *Lecture Notes in Computer Science*, pages 91–99, Liberec, Czech Republic. Springer
- 699) Xu, X., Deng, J., Zheng, W., Zhao, L., and Schuller, B. (2015). Dimensionality Reduction for Speech Emotion Features by Multiscale Kernels. In *Proceedings INTERSPEECH 2015, 16. Annual Conference of the International Speech Communication Association*, pages 1532–1536, Dresden, Germany. ISCA, ISCA. (acceptance rate: 51%)
- 700) Zhang, Y., Coutinho, E., Zhang, Z., Quan, C., and Schuller, B. (2015b). Agreement-based Dynamic Active Learning with Least and Medium Certainty Query Strategy. In Krishnamurthy, A., Ramdas, A., Balcan, N., and Singh, A., editors, *Proceedings Advances in Active Learning : Bridging Theory and Practice Workshop held in conjunction with the 32. International Conference on Machine Learning, ICML 2015*, Lille, France. International Machine Learning Society, IMLS. 5 pages
- 701) Zhang, Y., Coutinho, E., Zhang, Z., Adam, M., and Schuller, B. (2015a). On Rater Reliability and Agreement Based Dynamic Active Learning. In *Proceedings 6. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, pages 70–76, Xi'an, China. AAAC, IEEE. (acceptance rate oral: 28%)
- 702) Zhang, Y., Coutinho, E., Zhang, Z., Quan, C., and Schuller, B. (2015c). Dynamic Active Learning Based on Agreement and Applied to Emotion Recognition in Spoken Interactions. In *Proceedings 17. International Conference on Multimodal Interaction, ICMI 2015*, pages 275–278, Seattle, WA. ACM, ACM
- 703) Schuller, B., Zhang, Y., Eyben, F., and Weninger, F. (2014h). Intelligent systems' Holistic Evolving Analysis of Real-life Universal speaker characteristics. In Schuller, B., Buitelaar, P., Devillers, L., Pelachaud, C., Declerck, T., Batliner, A., Rosso, P., and Gaines, S., editors, *Proceedings 5. International Workshop on Emotion Social Signals, Sentiment & Linked Open Data (ES<sup>3</sup>LOD 2014), satellite of the 9. Language Resources and Evaluation Conference (LREC 2014)*, pages 14–20, Reykjavik, Iceland. ELRA, ELRA
- 704) Schuller, B., Steidl, S., Batliner, A., Epps, J., Eyben, F., Ringeval, F., Marchi, E., and Zhang, Y. (2014e). The INTERSPEECH 2014 Computational Paralinguistics Challenge: Cognitive & Physical Load. In *Proceedings INTERSPEECH 2014, 15. Annual Conference of the International Speech Communication Association*, Singapore, Singapore. ISCA, ISCA. 5 pages (acceptance rate: 52%)
- 705) Schuller, B., Friedmann, F., and Eyben, F. (2014b). The Munich BioVoice Corpus: Effects of Physical

- Exercising, Heart Rate, and Skin Conductance on Human Speech Production. In *Proceedings 9. Language Resources and Evaluation Conference (LREC 2014)*, pages 1506–1510, Reykjavik, Iceland. ELRA, ELRA
- 706) Schuller, B., Marchi, E., Baron-Cohen, S., O’Reilly, H., Pigat, D., Robinson, P., Davies, I., Golan, O., Fridenson, S., Tal, S., Newman, S., Meir, N., Shillo, R., Camurri, A., Piana, S., Staglianò, A., Bölte, S., Lundqvist, D., Berggren, S., Baranger, A., and Sullings, N. (2014d). The state of play of ASC-Inclusion: An Integrated Internet-Based Environment for Social Inclusion of Children with Autism Spectrum Conditions. In Paletta, L., Schuller, B., Robinson, P., and Sabouret, N., editors, *Proceedings 2. International Workshop on Digital Games for Empowerment and Inclusion (IDGEI 2014)*, Haifa, Israel. ACM, ACM. 8 pages, held in conjunction with the 19. International Conference on Intelligent User Interfaces (IUI 2014)
- 707) Batliner, A. and Schuller, B. (2014). More Than Fifty Years of Speech Processing – The Rise of Computational Paralinguistics and Ethical Demands. In *Proceedings ETHICOMP 2014*, Paris, France. Commission de réflexion sur l’Ethique de la Recherche en sciences et technologies du Numérique d’Allistene, CERNA
- 708) Brückner, R. and Schuller, B. (2014). Social Signal Classification Using Deep BLSTM Recurrent Neural Networks. In *Proceedings 39. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2014*, pages 4856–4860, Florence, Italy. IEEE, IEEE. (acceptance rate: 50 %)
- 709) Celiktutan, O., Eyben, F., Sariyanidi, E., Gunes, H., and Schuller, B. (2014a). MAPTRAITS 2014: The First Audio/Visual Mapping Personality Traits Challenge. In *Proceedings of the Personality Mapping Challenge & Workshop (MAPTRAITS 2014), Satellite of the 16. ACM International Conference on Multimodal Interaction (ICMI 2014)*, pages 3–9, Istanbul, Turkey. ACM, ACM
- 710) Celiktutan, O., Eyben, F., Sariyanidi, E., Gunes, H., and Schuller, B. (2014b). MAPTRAITS 2014: The First Audio/Visual Mapping Personality Traits Challenge – An Introduction. In *Proceedings of the Personality Mapping Challenge & Workshop (MAPTRAITS 2014), Satellite of the 16. ACM International Conference on Multimodal Interaction (ICMI 2014)*, pages 529–530, Istanbul, Turkey. ACM, ACM
- 711) Coutinho, E., Weninger, F., Scherer, K., and Schuller, B. (2014b). The Munich LSTM-RNN Approach to the MediaEval 2014 “Emotion in Music” Task. In Larson, M., Ionescu, B., Anguera, X., Eskevich, M., Korshunov, P., Schedl, M., Soleymani, M., Petkos, G., Sutcliffe, R., Choi, J., and Jones, G. J., editors, *Proceedings MediaEval 2014 Multimedia Benchmark Workshop*, Barcelona, Spain. CEUR. 2 pages, best result
- 712) Coutinho, E., Deng, J., and Schuller, B. (2014a). Transfer Learning Emotion Manifestation Across Music and Speech. In *Proceedings 2014 International Joint Conference on Neural Networks (IJCNN) as part of the IEEE World Congress on Computational Intelligence (IEEE WCCI)*, pages 3592–3598, Beijing, China. INNS/IEEE, IEEE. (acceptance rate: 30 %)
- 713) Deng, J., Xia, R., Zhang, Z., Liu, Y., and Schuller, B. (2014a). Introducing Shared-Hidden-Layer Autoencoders for Transfer Learning and their Application in Acoustic Emotion Recognition. In *Proceedings 39. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2014*, pages 4851–4855, Florence, Italy. IEEE, IEEE. (acceptance rate: 50 %)
- 714) Deng, J., Zhang, Z., and Schuller, B. (2014c). Linked Source and Target Domain Subspace Feature Transfer Learning – Exemplified by Speech Emotion Recognition. In *Proceedings 22. International Conference on Pattern Recognition (ICPR 2014)*, pages 761–766, Stockholm, Sweden. IAPR, IAPR. acceptance rate: 56 %
- 715) Geiger, J. T., Kneißl, M., Schuller, B., and Rigoll, G. (2014c). Acoustic Gait-based Person Identification using Hidden Markov Models. In *Proceedings of the Personality Mapping Challenge & Workshop (MAPTRAITS 2014), Satellite of the 16. ACM International Conference on Multimodal Interaction (ICMI 2014)*, pages 25–30, Istanbul, Turkey. ACM, ACM
- 716) Geiger, J. T., Gemmeke, J. F., Schuller, B., and Rigoll, G. (2014b). Investigating NMF Speech Enhancement for Neural Network based Acoustic Models. In *Proceedings INTERSPEECH 2014, 15. Annual Conference of the International Speech Communication Association*, Singapore, Singapore. ISCA, ISCA. 5 pages (acceptance rate: 52 %)
- 717) Geiger, J. T., Weninger, F., Gemmeke, J. F., Wöllmer, M., Schuller, B., and Rigoll, G. (2014f). Memory-Enhanced Neural Networks and NMF for Robust ASR. In *Proceedings 2. IEEE Global Conference on Signal and Information Processing, GlobalSIP, Machine Learning Applications in Speech Processing Symposium*, Atlanta, GA. IEEE, IEEE. 10 pages (acceptance rate: 45 %)
- 718) Geiger, J. T., Zhang, Z., Weninger, F., Schuller, B., and Rigoll, G. (2014h). Robust Speech Recognition using Long Short-Term Memory Recurrent Neural Networks for Hybrid Acoustic Modelling. In *Proceedings INTERSPEECH 2014, 15. Annual Conference of the International Speech Communication Association*, Singapore, Singapore. ISCA, ISCA. 5 pages (acceptance rate: 52 %)
- 719) Geiger, J., Marchi, E., Weninger, F., Schuller, B., and Rigoll, G. (2014a). The TUM system for the REVERB Challenge: Recognition of Reverberated Speech using Multi-Channel Correlation Shaping Dereverberation and BLSTM Recurrent Neural Networks. In *Proceedings REVERB Workshop, held in conjunction with ICASSP 2014 and HSCMA 2014*,

- pages 1–8, Florence, Italy. IEEE, IEEE
- 720) Geiger, J. T., Zhang, B., Schuller, B., and Rigoll, G. (2014g). On the Influence of Alcohol Intoxication on Speaker Recognition. In *Proceedings AES 53. International Conference on Semantic Audio*, pages 1–7, London, UK. AES, Audio Engineering Society
- 721) Hartmann, K., Böck, R., and Schuller, B. (2014a). ERM4HCI 2014 – The 2. Workshop on Emotion Representation and Modelling in Human-Computer-Interaction-Systems. In Hartmann, K., Böck, R., and Schuller, B., editors, *Proceedings of the 2. Workshop on Emotion representation and modelling in Human-Computer-Interaction-Systems, ERM4HCI 2014*, pages 525–526, Istanbul, Turkey. ACM, ACM. held in conjunction with the 16. ACM International Conference on Multimodal Interaction, ICMI 2014
- 722) Kaya, H., Eyben, F., Salah, A. A., and Schuller, B. (2014). CCA Based Feature Selection with Application to Continuous Depression Recognition from Acoustic Speech Features. In *Proceedings 39. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2014*, pages 3757–3761, Florence, Italy. IEEE, IEEE. (acceptance rate: 50%)
- 723) Kirst, C., Weninger, F., Joder, C., Grosche, P., Geiger, J., and Schuller, B. (2014). On-line NMF-based Stereo Up-Mixing of Speech Improves Perceived Reduction of Non-Stationary Noise. In Brandenburg, K. and Sandler, M., editors, *Proceedings AES 53. International Conference on Semantic Audio*, pages 1–7, London, UK. AES, Audio Engineering Society. Best Student Paper Award
- 724) Marchi, E., Ferroni, G., Eyben, F., Gabrielli, L., Squartini, S., and Schuller, B. (2014a). Multi-resolution Linear Prediction Based Features for Audio Onset Detection with Bidirectional LSTM Neural Networks. In *Proceedings 39. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2014*, pages 2183–2187, Florence, Italy. IEEE, IEEE. (acceptance rate: 50%)
- 725) Marchi, E., Ferroni, G., Eyben, F., Squartini, S., and Schuller, B. (2014b). Audio Onset Detection: A Wavelet Packet Based Approach with Recurrent Neural Networks. In *Proceedings 2014 International Joint Conference on Neural Networks (IJCNN) as part of the IEEE World Congress on Computational Intelligence (IEEE WCCI)*, pages 3585–3591, Beijing, China. INNS/IEEE, IEEE. (acceptance rate: 30%)
- 726) Newman, S., Golan, O., Baron-Cohen, S., Bölte, S., Baranger, A., Schuller, B., Robinson, P., Camurri, A., Meir-Goren, N., Skurnik, M., Fridenson, S., Tal, S., Eshchar, E., O’Reilly, H., Pigat, D., Berggren, S., Lundqvist, D., Sullings, N., Davies, I., and Piana, S. (2014). ASC-Inclusion – Interactive Software to Help Children with ASC Understand and Express Emotions. In *Proceedings 13th Annual International Meeting For Autism Research (IMFAR 2014)*, Atlanta, GA. International Society for Autism Research (INSAR), INSAR. 1 page
- 727) Ringeval, F., Amiriparian, S., Eyben, F., Scherer, K., and Schuller, B. (2014). Emotion Recognition in the Wild: Incorporating Voice and Lip Activity in Multimodal Decision-Level Fusion. In *Proceedings of the ICMI 2014 EmotiW – Emotion Recognition In The Wild Challenge and Workshop (EmotiW 2014), Satellite of the 16. ACM International Conference on Multimodal Interaction (ICMI 2014)*, pages 473–480, Istanbul, Turkey. ACM, ACM
- 728) Soleymani, M., Aljanaki, A., Yang, Y.-H., Caro, M. N., Eyben, F., Markov, K., Schuller, B., Veltkamp, R., Weninger, F., and Wiering, F. (2014). Emotional Analysis of Music: A Comparison of Methods. In *Proceedings of the 22. ACM International Conference on Multimedia, MM 2014*, pages 1161–1164, Orlando, FL. ACM, ACM. 4 pages
- 729) Trigeorgis, G., Bousmalis, K., Zafeiriou, S., and Schuller, B. (2014). A Deep Semi-NMF Model for Learning Hidden Representations. In Xing, E. P. and Jebara, T., editors, *Proceedings 31. International Conference on Machine Learning, ICML 2014*, volume 32, Beijing, China. International Machine Learning Society, IMLS. 9 pages (acceptance rate: 25%)
- 730) Weninger, F., Hershey, J. R., Le Rouxy, J., and Schuller, B. (2014b). Discriminatively Trained Recurrent Neural Networks for Single-Channel Speech Separation. In *Proceedings 2. IEEE Global Conference on Signal and Information Processing, GlobalSIP, Machine Learning Applications in Speech Processing Symposium*, pages 577–581, Atlanta, GA. IEEE, IEEE. (acceptance rate: 45%)
- 731) Weninger, F., Watanabe, S., Le Roux, J., Hershey, J. R., Tachioka, Y., Geiger, J., Schuller, B., and Rigoll, G. (2014d). The MERL/MELCO/TUM system for the REVERB Challenge using Deep Recurrent Neural Network Feature Enhancement. In *Proceedings REVERB Workshop, held in conjunction with ICASSP 2014 and HSCMA 2014*, pages 1–8, Florence, Italy. IEEE, IEEE. second best result
- 732) Zhang, Z., Eyben, F., Deng, J., and Schuller, B. (2014b). An Agreement and Sparseness-based Learning Instance Selection and its Application to Subjective Speech Phenomena. In Schuller, B., Buitelaar, P., Devillers, L., Pelachaud, C., Declerck, T., Batliner, A., Rosso, P., and Gaines, S., editors, *Proceedings 5. International Workshop on Emotion Social Signals, Sentiment & Linked Open Data (ES<sup>3</sup>LOD 2014), satellite of the 9. Language Resources and Evaluation Conference (LREC 2014)*, pages 21–26, Reykjavik, Iceland. ELRA, ELRA
- 733) Valstar, M., Schuller, B., Smith, K., Almaev, T., Eyben, F., Krajewski, J., Cowie, R., and Pantic, M. (2014b). AVEC 2014 – The Three Dimensional Affect and Depression Challenge. In *Proceedings of the 4. ACM international workshop on Audio/Visual Emotion Challenge*, Orlando, FL. ACM, ACM. 9 pages
- 734) Weninger, F. J., Watanabe, S., Tachioka, Y., and

- Schuller, B. (2014g). Deep Recurrent De-Noising Auto-Encoder and blind de-reverberation for reverberated speech recognition. In *Proceedings 39. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2014*, pages 4656–4660, Florence, Italy. IEEE, IEEE. (acceptance rate: 50%)
- 735) Weninger, F. J., Eyben, F., and Schuller, B. (2014e). On-Line Continuous-Time Music Mood Regression with Deep Recurrent Neural Networks. In *Proceedings 39. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2014*, pages 5449–5453, Florence, Italy. IEEE, IEEE. (acceptance rate: 50%)
- 736) Weninger, F. J., Eyben, F., and Schuller, B. (2014f). Single-Channel Speech Separation With Memory-Enhanced Recurrent Neural Networks. In *Proceedings 39. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2014*, pages 3737–3741, Florence, Italy. IEEE, IEEE. (acceptance rate: 50%)
- 737) Xia, R., Deng, J., Schuller, B., and Liu, Y. (2014). Modeling Gender Information for Emotion Recognition Using Denoising Autoencoders. In *Proceedings 39. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2014*, pages 990–994, Florence, Italy. IEEE, IEEE. (acceptance rate: 50%)
- 738) Schuller, B., Marchi, E., Baron-Cohen, S., O'Reilly, H., Robinson, P., Davies, I., Golan, O., Friedenson, S., Tal, S., Newman, S., Meir, N., Shillo, R., Camurri, A., Piana, S., Bölte, S., Lundqvist, D., Berggren, S., Baranger, A., and Sullings, N. (2013c). ASC-Inclusion: Interactive Emotion Games for Social Inclusion of Children with Autism Spectrum Conditions. In Schuller, B., Paletta, L., and Sabouret, N., editors, *Proceedings 1. International Workshop on Intelligent Digital Games for Empowerment and Inclusion (IDGEI 2013) held in conjunction with the 8. Foundations of Digital Games 2013 (FDG)*, Chania, Greece. ACM, SASDG. 8 pages (acceptance rate: 69%)
- 739) Schuller, B., Steidl, S., Batliner, A., Vinciarelli, A., Scherer, K., Ringeval, F., Chetouani, M., Weninger, F., Eyben, F., Marchi, E., Mortillaro, M., Salamin, H., Polychroniou, A., Valente, F., and Kim, S. (2013i). The INTERSPEECH 2013 Computational Paralinguistics Challenge: Social Signals, Conflict, Emotion, Autism. In *Proceedings INTERSPEECH 2013, 14. Annual Conference of the International Speech Communication Association*, pages 148–152, Lyon, France. ISCA, ISCA. (acceptance rate: 52%)
- 740) Schuller, B., Friedmann, F., and Eyben, F. (2013b). Automatic Recognition of Physiological Parameters in the Human Voice: Heart Rate and Skin Conductance. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 7219–7223, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53%)
- 741) Schuller, B., Pokorny, F., Ladstätter, S., Fellner, M., Graf, F., and Paletta, L. (2013e). Acoustic Geo-Sensing: Recognising Cyclists' Route, Route Direction, and Route Progress from Cell-Phone Audio. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 453–457, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53%)
- 742) Brückner, R. and Schuller, B. (2013). Hierarchical Neural Networks and Enhanced Class Posteriors for Social Signal Classification. In *Proceedings 13th Biannual IEEE Automatic Speech Recognition and Understanding Workshop, ASRU 2013*, pages 362–367, Olomouc, Czech Republic. IEEE, IEEE. 6 pages (acceptance rate: 47%)
- 743) Deng, J., Zhang, Z., Marchi, E., and Schuller, B. (2013). Sparse Autoencoder-based Feature Transfer Learning for Speech Emotion Recognition. In *Proceedings 5. biannual Humaine Association Conference on Affective Computing and Intelligent Interaction (ACII 2013)*, pages 511–516, Geneva, Switzerland. HUMAINE Association, IEEE. (acceptance rate oral: 31%)
- 744) Dunwell, I., Lameris, P., Stewart, C., Petridis, P., Arnab, S., Hendrix, M., de Freitas, S., Gaved, M., Schuller, B., and Paletta, L. (2013). Developing a Digital Game to Support Cultural Learning amongst Immigrants. In Schuller, B., Paletta, L., and Sabouret, N., editors, *Proceedings 1. International Workshop on Intelligent Digital Games for Empowerment and Inclusion (IDGEI 2013) held in conjunction with the 8. Foundations of Digital Games 2013 (FDG)*, Chania, Greece. ACM, SASDG. 8 pages (acceptance rate: 69%)
- 745) Eyben, F., Weninger, F., Paletta, L., and Schuller, B. (2013d). The acoustics of eye contact – Detecting visual attention from conversational audio cues. In *Proceedings 6. Workshop on Eye Gaze in Intelligent Human Machine Interaction: GAZEIN 2013, held in conjunction with the 15. International Conference on Multimodal Interaction, ICMI 2013*, pages 7–12, Sydney, Australia. ACM, ACM. (acceptance rate: 38%)
- 746) Eyben, F., Weninger, F., and Schuller, B. (2013e). Affect recognition in real-life acoustic conditions – A new perspective on feature selection. In *Proceedings INTERSPEECH 2013, 14. Annual Conference of the International Speech Communication Association*, pages 2044–2048, Lyon, France. ISCA, ISCA. (acceptance rate: 52%)
- 747) Eyben, F., Weninger, F., Groß, F., and Schuller, B. (2013a). Recent Developments in openSMILE, the Munich Open-Source Multimedia Feature Extractor. In *Proceedings of the 21. ACM International Conference on Multimedia, MM 2013*, pages 835–838, Barcelona, Spain. ACM, ACM. (Honorable Mention (2. place) in the ACM MM 2013 Open-source Software Competition, Test of Time Paper Award Cat-

- egory of MM Interfaces & Applications Honourable Mention (2021), acceptance rate: 28 %)
- 748) Eyben, F., Weninger, F., Squartini, S., and Schuller, B. (2013f). Real-life Voice Activity Detection with LSTM Recurrent Neural Networks and an Application to Hollywood Movies. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 483–487, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53 %)
- 749) Eyben, F., Weninger, F., Marchi, E., and Schuller, B. (2013c). Likability of human voices: A feature analysis and a neural network regression approach to automatic likability estimation. In *Proceedings 14. International Workshop on Image and Audio Analysis for Multimedia Interactive Services, WIAMIS 2013*, Paris, France. IEEE, IEEE. Special Session on Social Stance Analysis, 4 pages (acceptance rate: 52 %)
- 750) Geiger, J. T., Eyben, F., Schuller, B., and Rigoll, G. (2013b). Detecting Overlapping Speech with Long Short-Term Memory Recurrent Neural Networks. In *Proceedings INTERSPEECH 2013, 14. Annual Conference of the International Speech Communication Association*, pages 1668–1672, Lyon, France. ISCA, ISCA. (acceptance rate: 52 %)
- 751) Geiger, J. T., Schuller, B., and Rigoll, G. (2013d). Large-Scale Audio Feature Extraction and SVM for Acoustic Scene Classification. In *Proceedings of the 2013 IEEE Workshop on Applications of Signal Processing to Audio and Acoustics, WASPAA 2013*, pages 1–4, New Paltz, NY. IEEE, IEEE
- 752) Geiger, J. T., Eyben, F., Evans, N., Schuller, B., and Rigoll, G. (2013a). Using Linguistic Information to Detect Overlapping Speech. In *Proceedings INTERSPEECH 2013, 14. Annual Conference of the International Speech Communication Association*, pages 690–694, Lyon, France. ISCA, ISCA. (acceptance rate: 52 %)
- 753) Geiger, J. T., Hofmann, M., Schuller, B., and Rigoll, G. (2013c). Gait-based Person Identification by Spectral, Cepstral and Energy-related Audio Features. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 458–462, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53 %)
- 754) Geiger, J. T., Weninger, F., Hurmalainen, A., Gemmeke, J. F., Wöllmer, M., Schuller, B., Rigoll, G., and Virtanen, T. (2013e). The TUM+TUT+KUL Approach to the CHiME Challenge 2013: Multi-Stream ASR Exploiting BLSTM Networks and Sparse NMF. In *Proceedings The 2. CHiME Workshop on Machine Listening in Multisource Environments held in conjunction with ICASSP 2013*, pages 25–30, Vancouver, Canada. IEEE, IEEE. winning paper of track 1 and best paper award
- 755) Han, W., Li, H., Ruan, H., Ma, L., Sun, J., and Schuller, B. (2013). Active Learning for Dimensional Speech Emotion Recognition. In *Proceedings INTERSPEECH 2013, 14. Annual Conference of the International Speech Communication Association*, pages 2856–2859, Lyon, France. ISCA, ISCA. (acceptance rate: 52 %)
- 756) Joder, C., Weninger, F., Virette, D., and Schuller, B. (2013a). A Comparative Study on Sparsity Penalties for NMF-based Speech Separation: Beyond LP-Norms. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 858–862, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53 %)
- 757) Joder, C., Weninger, F., Virette, D., and Schuller, B. (2013b). Integrating Noise Estimation and Factorization-based Speech Separation: a Novel Hybrid Approach. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 131–135, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53 %)
- 758) Joder, C. and Schuller, B. (2013). Off-line Refinement of Audio-to-Score Alignment by Observation Template Adaptation. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 206–210, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53 %)
- 759) Newman, S., Golan, O., Baron-Cohen, S., Bölte, S., Baranger, A., Schuller, B., Robinson, P., Camurri, A., Meir, N., Rotman, C., Tal, S., Fridenson, S., O’Reilly, H., Lundqvist, D., Berggren, S., Sullings, N., Marchi, E., Batliner, A., Davies, I., and Piana, S. (2013). ASC-Inclusion – Interactive Software to Help Children with ASC Understand and Express Emotions. In *Proceedings 12th Annual International Meeting For Autism Research (IMFAR 2013)*, San Sebastián, Spain. International Society for Autism Research (INSAR), INSAR. 1 page
- 760) Rosner, A., Weninger, F., Schuller, B., Michalak, M., and Kostek, B. (2013). Influence of Low-Level Features Extracted from Rhythmic and Harmonic Sections on Music Genre Classification. In Gruca, A., Czach?rski, T., and Kozielski, S., editors, *Man-Machine Interactions 3*, volume 242 of *Advances in Intelligent Systems and Computing (AISC)*, pages 467–473. Springer
- 761) Valstar, M., Schuller, B., Smith, K., Eyben, F., Jiang, B., Bilakhia, S., Schnieder, S., Cowie, R., and Pantic, M. (2013b). AVEC 2013 – The Continuous Audio/Visual Emotion and Depression Recognition Challenge. In *Proceedings of the 3. ACM international workshop on Audio/Visual Emotion Challenge*, pages 3–10, Barcelona, Spain. ACM, ACM
- 762) Valstar, M., Schuller, B., Krajewski, J., Cowie, R., and Pantic, M. (2013a). Workshop summary for the 3. international audio/visual emotion challenge and workshop (AVEC’13). In *Proceedings of the 21. ACM international conference on Multimedia, ACM MM 2013*, pages 1085–1086, Barcelona, Spain. ACM, ACM. (acceptance rate: 28 %)
- 763) Weninger, F., Kirst, C., Schuller, B., and Bungartz,

- H.-J. (2013d). A Discriminative Approach to Polyphonic Piano Note Transcription using Non-negative Matrix Factorization. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 6–10, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53%)
- 764) Weninger, F., Wagner, C., Wöllmer, M., Schuller, B., and Morency, L.-P. (2013f). Speaker Trait Characterization in Web Videos: Uniting Speech, Language, and Facial Features. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 3647–3651, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53%)
- 765) Weninger, F., Geiger, J., Wöllmer, M., Schuller, B., and Rigoll, G. (2013c). The Munich Feature Enhancement Approach to the 2013 CHiME Challenge Using BLSTM Recurrent Neural Networks. In *Proceedings The 2. CHiME Workshop on Machine Listening in Multisource Environments held in conjunction with ICASSP 2013*, pages 86–90, Vancouver, Canada. IEEE, IEEE
- 766) Weninger, F., Eyben, F., and Schuller, B. (2013a). The TUM Approach to the MediaEval Music Emotion Task Using Generic Affective Audio Features. In Larson, M., Anguera, X., Reuter, T., Jones, G. J., Ionescu, B., Schedl, M., Piatrik, T., Hauff, C., and Soleymani, M., editors, *Proceedings MediaEval 2013 Multimedia Benchmark Workshop*, Barcelona, Spain. CEUR. 2 pages, best result
- 767) Wöllmer, M., Zhang, Z., Weninger, F., Schuller, B., and Rigoll, G. (2013f). Feature Enhancement by Bidirectional LSTM Networks for Conversational Speech Recognition in Highly Non-Stationary Noise. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 6822–6826, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53%)
- 768) Wöllmer, M., Schuller, B., and Rigoll, G. (2013c). Probabilistic ASR Feature Extraction Applying Context-Sensitive Connectionist Temporal Classification Networks. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 7125–7129, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53%)
- 769) Zhang, Z., Deng, J., Marchi, E., and Schuller, B. (2013a). Active Learning by Label Uncertainty for Acoustic Emotion Recognition. In *Proceedings INTERSPEECH 2013, 14. Annual Conference of the International Speech Communication Association*, pages 2841–2845, Lyon, France. ISCA, ISCA. (acceptance rate: 52%)
- 770) Zhang, Z., Deng, J., and Schuller, B. (2013b). Co-Training Succeeds in Computational Paralinguistics. In *Proceedings 38. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013*, pages 8505–8509, Vancouver, Canada. IEEE, IEEE. (acceptance rate: 53%)
- 771) Schuller, B., Steidl, S., Batliner, A., Nöth, E., Vinciarelli, A., Burkhardt, F., van Son, R., Weninger, F., Eyben, F., Bocklet, T., Mohammadi, G., and Weiss, B. (2012d). The INTERSPEECH 2012 Speaker Trait Challenge. In *Proceedings INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association*, pages 254–257, Portland, OR. ISCA, ISCA. (acceptance rate: 52%)
- 772) Schuller, B., Valstar, M., Eyben, F., Cowie, R., and Pantic, M. (2012g). AVEC 2012 – The Continuous Audio/Visual Emotion Challenge. In Morency, L.-P., Bohus, D., Aghajan, H. K., Cassell, J., Nijholt, A., and Epps, J., editors, *Proceedings 14. ACM International Conference on Multimodal Interaction, ICMI*, pages 449–456, Santa Monica, CA. ACM, ACM. (acceptance rate: 36%)
- 773) Schuller, B., Hantke, S., Weninger, F., Han, W., Zhang, Z., and Narayanan, S. (2012c). Automatic Recognition of Emotion Evoked by General Sound Events. In *Proceedings 37. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2012*, pages 341–344, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 49%)
- 774) Ungruh, S., Krajewski, J., and Schuller, B. (2012). Maus- und tastaturunterstützte Detektion von Schläfrigkeitszuständen. In *Proceedings 48. Kongress der Deutschen Gesellschaft für Psychologie*, Bielefeld, Germany. Deutsche Gesellschaft für Psychologie (DGPs), Deutsche Gesellschaft für Psychologie. 1 page
- 775) Eyben, F., Weninger, F., Lehment, N., Rigoll, G., and Schuller, B. (2012d). Violent Scenes Detection with Large, Brute-forced Acoustic and Visual Feature Sets. In Larson, M. A., Schmiedeke, S., Kelm, P., Rae, A., Mezaris, V., Piatrik, T., Soleymani, M., Metze, F., and Jones, G. J., editors, *Working Notes Proceedings MediaEval 2012 Workshop*, volume 927, Pisa, Italy. CEUR. 2 pages
- 776) Joder, C., Weninger, F., Wöllmer, M., and Schuller, B. (2012d). The TUM Cumulative DTW Approach for the Mediaeval 2012 Spoken Web Search Task. In Larson, M. A., Schmiedeke, S., Kelm, P., Rae, A., Mezaris, V., Piatrik, T., Soleymani, M., Metze, F., and Jones, G. J., editors, *Working Notes Proceedings MediaEval 2012 Workshop*, volume 927, Pisa, Italy. CEUR. 2 pages
- 777) Eyben, F., Schuller, B., and Rigoll, G. (2012c). Improving Generalisation and Robustness of Acoustic Affect Recognition. In Morency, L.-P., Bohus, D., Aghajan, H. K., Cassell, J., Nijholt, A., and Epps, J., editors, *Proceedings of the 14. ACM International Conference on Multimodal Interaction, ICMI*, pages 517–522, Santa Monica, CA. ACM, ACM. (acceptance rate: 36%)
- 778) Han, W., Li, H., Ma, L., Zhang, X., Sun, J., Eyben, F., and Schuller, B. (2012b). Preserving Actual Dynamic Trend of Emotion in Dimensional Speech Emotion Recognition. In Morency, L.-P., Bohus, D., Aghajan,



- H. K., Cassell, J., Nijholt, A., and Epps, J., editors, *Proceedings 14. ACM International Conference on Multimodal Interaction, ICMI*, pages 523–528, Santa Monica, CA. ACM, ACM. (acceptance rate: 36 %)
- 779) Marchi, E., Schuller, B., Batliner, A., Fridenzon, S., Tal, S., and Golan, O. (2012b). Emotion in the Speech of Children with Autism Spectrum Conditions: Prosody and Everything Else. In *Proceedings 3. Workshop on Child, Computer and Interaction (WOCCI 2012), Satellite Event of INTERSPEECH 2012*, Portland, OR. ISCA, ISCA. 8 pages (acceptance rate: 52 %)
- 780) Marchi, E., Batliner, A., Schuller, B., Fridenzon, S., Tal, S., and Golan, O. (2012a). Speech, Emotion, Age, Language, Task, and Typicality: Trying to Disentangle Performance and Feature Relevance. In *Proceedings First International Workshop on Wide Spectrum Social Signal Processing (WS<sup>3</sup>P 2012), held in conjunction with the ASE/IEEE International Conference on Social Computing (SocialCom 2012)*, Amsterdam, The Netherlands. ASE/IEEE, IEEE. 8 pages (acceptance rate: 42 %)
- 781) Deng, J. and Schuller, B. (2012). Confidence Measures in Speech Emotion Recognition Based on Semi-supervised Learning. In *Proceedings INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association*, pages 2226–2229, Portland, OR. ISCA, ISCA. (acceptance rate: 52 %)
- 782) Weninger, F., Marchi, E., and Schuller, B. (2012d). Improving Recognition of Speaker States and Traits by Cumulative Evidence: Intoxication, Sleepiness, Age and Gender. In *Proceedings INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association*, pages 1159–1162, Portland, OR. ISCA, ISCA. (acceptance rate: 52 %)
- 783) Weninger, F. and Schuller, B. (2012a). Discrimination of Linguistic and Non-Linguistic Vocalizations in Spontaneous Speech: Intra- and Inter-Corpus Perspectives. In *Proceedings INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association*, pages 102–105, Portland, OR. ISCA, ISCA. (acceptance rate: 52 %)
- 784) Brückner, R. and Schuller, B. (2012). Likability Classification – A not so Deep Neural Network Approach. In *Proceedings INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association*, pages 290–293, Portland, OR. ISCA, ISCA. (acceptance rate: 52 %)
- 785) Weninger, F., Wöllmer, M., and Schuller, B. (2012g). Combining Bottleneck-BLSTM and Semi-Supervised Sparse NMF for Recognition of Conversational Speech in Highly Instationary Noise. In *Proceedings INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association*, pages 302–305, Portland, OR. ISCA, ISCA. (acceptance rate: 52 %)
- 786) Zhang, Z. and Schuller, B. (2012a). Active Learning by Sparse Instance Tracking and Classifier Confidence in Acoustic Emotion Recognition. In *Proceedings INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association*, pages 362–365, Portland, OR. ISCA, ISCA. (acceptance rate: 52 %)
- 787) Geiger, J. T., Vipplerla, R., Bozonnet, S., Evans, N., Schuller, B., and Rigoll, G. (2012a). Convolutional Non-Negative Sparse Coding and New Features for Speech Overlap Handling in Speaker Diarization. In *Proceedings INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association*, pages 2154–2157, Portland, OR. ISCA, ISCA. (acceptance rate: 52 %)
- 788) Wöllmer, M., Eyben, F., and Schuller, B. (2012a). Temporal and Situational Context Modeling for Improved Dominance Recognition in Meetings. In *Proceedings INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association*, pages 350–353, Portland, OR. ISCA, ISCA. (acceptance rate: 52 %)
- 789) Ringeval, F., Chetouani, M., and Schuller, B. (2012). Novel Metrics of Speech Rhythm for the Assessment of Emotion. In *Proceedings INTERSPEECH 2012, 13th Annual Conference of the International Speech Communication Association*, pages 346–349, Portland, OR. ISCA, ISCA. 4 pages (acceptance rate: 52 %)
- 790) Joder, C. and Schuller, B. (2012b). Score-Informed Leading Voice Separation from Monaural Audio. In *Proceedings 13th International Society for Music Information Retrieval Conference, ISMIR 2012*, pages 277–282, Porto, Portugal. ISMIR, ISMIR. (acceptance rate: 44 %)
- 791) Geiger, J. T., Vipplerla, R., Evans, N., Schuller, B., and Rigoll, G. (2012b). Speech Overlap Handling for Speaker Diarization Using Convolutional Non-negative Sparse Coding and Energy-Related Features. In *Proceedings 20. European Signal Processing Conference (EUSIPCO)*, Bucharest, Romania. EURASIP, EURASIP. 4 pages
- 792) Han, W., Li, H., Ma, L., Zhang, X., and Schuller, B. (2012a). A Ranking-based Emotion Annotation Scheme and Real-life Speech Database. In *Proceedings 4. International Workshop on EMOTION SENTIMENT & SOCIAL SIGNALS 2012 (ES<sup>2</sup> 2012) – Corpora for Research on Emotion, Sentiment & Social Signals, held in conjunction with LREC 2012*, pages 67–71, Istanbul, Turkey. ELRA, ELRA. (acceptance rate: 68 %)
- 793) Principi, E., Rotili, R., Wöllmer, M., Squartini, S., and Schuller, B. (2012b). Dominance Detection in a Reverberated Acoustic Scenario. In *Proceedings 9. International Conference on Advances in Neural Networks, ISNN 2012, Shenyang, China, 11.-14.07.2012*, volume 7367 of *Lecture Notes in Computer Science (LNCS)*, pages 394–402. Springer, Berlin/Heidelberg. Special Session on Advances in Cognitive and Emotional Information Processing



- 794) Weninger, F., Wöllmer, M., Geiger, J., Schuller, B., Gemmeke, J., Hurmalainen, A., Virtanen, T., and Rigoll, G. (2012f). Non-Negative Matrix Factorization for Highly Noise-Robust ASR: to Enhance or to Recognize? In *Proceedings 37. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2012*, pages 4681–4684, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 49%)
- 795) Wöllmer, M., Metallinou, A., Katsamanis, N., Schuller, B., and Narayanan, S. (2012c). Analyzing the Memory of BLSTM Neural Networks for Enhanced Emotion Classification in Dyadic Spoken Interactions. In *Proceedings 37. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2012*, pages 4157–4160, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 49%)
- 796) Zhang, Z. and Schuller, B. (2012b). Semi-supervised Learning Helps in Sound Event Classification. In *Proceedings 37. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2012*, pages 333–336, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 49%)
- 797) Weninger, F., Feliu, J., and Schuller, B. (2012b). Supervised and Semi-Supervised Suppression of Background Music in Monaural Speech Recordings. In *Proceedings 37. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2012*, pages 61–64, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 49%)
- 798) Weninger, F., Amir, N., Amir, O., Ronen, I., Eyben, F., and Schuller, B. (2012a). Robust Feature Extraction for Automatic Recognition of Vibrato Singing in Recorded Polyphonic Music. In *Proceedings 37. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2012*, pages 85–88, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 49%)
- 799) Prylipko, D., Schuller, B., and Wendemuth, A. (2012). Fine-Tuning HMMs for Nonverbal Vocalizations in Spontaneous Speech: a Multicorpus Perspective. In *Proceedings 37. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2012*, pages 4625–4628, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 49%)
- 800) Eyben, F., Petridis, S., Schuller, B., and Pantic, M. (2012b). Audiovisual Vocal Outburst Classification in Noisy Acoustic Conditions. In *Proceedings 37. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2012*, pages 5097–5100, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 49%)
- 801) Vipplerla, R., Geiger, J., Bozonnet, S., Wang, D., Evans, N., Schuller, B., and Rigoll, G. (2012). Speech Overlap Detection and Attribution Using Convolutional Non-Negative Sparse Coding. In *Proceedings 37. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2012*, pages 4181–4184, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 49%)
- 802) Joder, C., Weninger, F., Eyben, F., Virette, D., and Schuller, B. (2012a). Real-time Speech Separation by Semi-Supervised Nonnegative Matrix Factorization. In Theis, F. J., Cichocki, A., Yeredor, A., and Zibulevsky, M., editors, *Proceedings 10. International Conference on Latent Variable Analysis and Signal Separation, LVA/ICA 2012*, volume 7191 of *Lecture Notes in Computer Science*, pages 322–329, Tel Aviv, Israel. Springer. Special Session Real-world constraints and opportunities in audio source separation
- 803) Schuller, B., Weninger, F., and Dorfner, J. (2011f). Multi-Modal Non-Prototypical Music Mood Analysis in Continuous Space: Reliability and Performances. In *Proceedings 12th International Society for Music Information Retrieval Conference, ISMIR 2011*, pages 759–764, Miami, FL. ISMIR, ISMIR. (acceptance rate: 59%)
- 804) Schuller, B., Valstar, M., Eyben, F., McKeown, G., Cowie, R., and Pantic, M. (2011e). AVEC 2011 – The First International Audio/Visual Emotion Challenge. In Schuller, B., Valstar, M., Cowie, R., and Pantic, M., editors, *Proceedings First International Audio/Visual Emotion Challenge and Workshop, AVEC 2011, held in conjunction with the International HUMAINE Association Conference on Affective Computing and Intelligent Interaction 2011, ACII 2011*, volume II, pages 415–424. Springer, Memphis, TN
- 805) Schuller, B., Zhang, Z., Weninger, F., and Rigoll, G. (2011i). Selecting Training Data for Cross-Corpus Speech Emotion Recognition: Prototypicality vs. Generalization. In *Proceedings 2011 Speech Processing Conference*, Tel Aviv, Israel. AVIOS, AVIOS. invited contribution, 4 pages
- 806) Schuller, B., Batliner, A., Steidl, S., Schiel, F., and Krajewski, J. (2011a). The INTERSPEECH 2011 Speaker State Challenge. In *Proceedings INTERSPEECH 2011, 12th Annual Conference of the International Speech Communication Association*, pages 3201–3204, Florence, Italy. ISCA, ISCA. (acceptance rate: 59%)
- 807) Schuller, B., Zhang, Z., Weninger, F., and Rigoll, G. (2011j). Using Multiple Databases for Training in Emotion Recognition: To Unite or to Vote? In *Proceedings INTERSPEECH 2011, 12th Annual Conference of the International Speech Communication Association*, pages 1553–1556, Florence, Italy. ISCA, ISCA. (acceptance rate: 59%)
- 808) Rotili, R., Principi, E., Squartini, S., and Schuller, B. (2011). A Real-Time Speech Enhancement Framework for Multi-party Meetings. In Travieso-González, C. M. and Alonso-Hernández, J., editors, *Advances in Nonlinear Speech Processing, 5. International Conference on Nonlinear Speech Processing, NoLISP 2011, Las Palmas de Gran Canaria, Spain, November 7-9, 2011, Proceedings*, volume 7015/2011 of *Lecture Notes in Computer Science (LNCS)*, pages 80–87. Springer
- 809) Wöllmer, M. and Schuller, B. (2011). Enhancing Spontaneous Speech Recognition with BLSTM Features. In Travieso-González, C. M. and Alonso-

- Hernández, J., editors, *Advances in Nonlinear Speech Processing, 5. International Conference on Nonlinear Speech Processing, NoLISP 2011, Las Palmas de Gran Canaria, Spain, November 7-9, 2011, Proceedings*, volume 7015/2011 of *Lecture Notes in Computer Science (LNCS)*, pages 17–24. Springer
- 810) Zhang, Z., Weninger, F., Wöllmer, M., and Schuller, B. (2011). Unsupervised Learning in Cross-Corpus Acoustic Emotion Recognition. In *Proceedings 12th Biannual IEEE Automatic Speech Recognition and Understanding Workshop, ASRU 2011*, pages 523–528, Big Island, HI. IEEE, IEEE. (acceptance rate: 43 %)
- 811) Wöllmer, M., Schuller, B., and Rigoll, G. (2011f). A Novel Bottleneck-BLSTM Front-End for Feature-Level Context Modeling in Conversational Speech Recognition. In *Proceedings 12th Biannual IEEE Automatic Speech Recognition and Understanding Workshop, ASRU 2011*, pages 36–41, Big Island, HI. IEEE, IEEE. (acceptance rate: 43 %)
- 812) Weninger, F., Wöllmer, M., and Schuller, B. (2011f). Automatic Assessment of Singer Traits in Popular Music: Gender, Age, Height and Race. In *Proceedings 12th International Society for Music Information Retrieval Conference, ISMIR 2011*, pages 37–42, Miami, FL. ISMIR, ISMIR. (acceptance rate: 59 %)
- 813) Ungruh, S., Krajewski, J., Eyben, F., and Schuller, B. (2011). Maus- und tastaturunterstützte Detektion von Schläfrigkeit Zuständen. In *Proceedings 7. Tagung der Fachgruppe Arbeits-, Organisations- und Wirtschaftspsychologie, AOW 2011*, Rostock, Germany. Deutsche Gesellschaft für Psychologie (DGPs), Deutsche Gesellschaft für Psychologie. 1 page
- 814) Weninger, F., Geiger, J., Wöllmer, M., Schuller, B., and Rigoll, G. (2011b). The Munich 2011 CHiME Challenge Contribution: NMF-BLSTM Speech Enhancement and Recognition for Reverberated Multi-source Environments. In *Proceedings Machine Listening in Multisource Environments, CHiME 2011, satellite workshop of Interspeech 2011*, pages 24–29, Florence, Italy. ISCA, ISCA. (acceptance rate: 59 %)
- 815) Wöllmer, M., Weninger, F., Eyben, F., and Schuller, B. (2011h). Acoustic-Linguistic Recognition of Interest in Speech with Bottleneck-BLSTM Nets. In *Proceedings INTERSPEECH 2011, 12th Annual Conference of the International Speech Communication Association*, pages 3201–3204, Florence, Italy. ISCA, ISCA. (acceptance rate: 59 %)
- 816) Wöllmer, M., Weninger, F., Steidl, S., Batliner, A., and Schuller, B. (2011j). Speech-based Non-prototypical Affect Recognition for Child-Robot Interaction in Reverberated Environments. In *Proceedings INTERSPEECH 2011, 12th Annual Conference of the International Speech Communication Association*, pages 3113–3116, Florence, Italy. ISCA, ISCA. (acceptance rate: 59 %)
- 817) Wöllmer, M., Schuller, B., and Rigoll, G. (2011g). Feature Frame Stacking in RNN-based Tandem ASR Systems – Learned vs. Predefined Context. In *Proceedings INTERSPEECH 2011, 12th Annual Conference of the International Speech Communication Association*, pages 1233–1236, Florence, Italy. ISCA, ISCA. (acceptance rate: 59 %)
- 818) Burkhardt, F., Schuller, B., Weiss, B., and Weninger, F. (2011). “Would You Buy A Car From Me?” -? On the Likability of Telephone Voices. In *Proceedings INTERSPEECH 2011, 12th Annual Conference of the International Speech Communication Association*, pages 1557–1560, Florence, Italy. ISCA, ISCA. (acceptance rate: 59 %)
- 819) Geiger, J. T., Lakhall, M. A., Schuller, B., and Rigoll, G. (2011). Learning new acoustic events in an HMM-based system using MAP adaptation. In *Proceedings INTERSPEECH 2011, 12th Annual Conference of the International Speech Communication Association*, pages 293–296, Florence, Italy. ISCA, ISCA. (acceptance rate: 59 %)
- 820) Gunes, H., Schuller, B., Pantic, M., and Cowie, R. (2011). Emotion Representation, Analysis and Synthesis in Continuous Space: A Survey. In *Proceedings International Workshop on Emotion Synthesis, rePresentation, and Analysis in Continuous space, EmoSPACE 2011, held in conjunction with the 9. IEEE International Conference on Automatic Face & Gesture Recognition and Workshops, FG 2011*, pages 827–834, Santa Barbara, CA. IEEE, IEEE
- 821) Wöllmer, M., Marchi, E., Squartini, S., and Schuller, B. (2011d). Robust Multi-Stream Keyword and Non-Linguistic Vocalization Detection for Computationally Intelligent Virtual Agents. In Liu, D., Zhang, H., Polycarpou, M., Alippi, C., and He, H., editors, *Proceedings 8. International Conference on Advances in Neural Networks, ISNN 2011, Guilin, China, 29.05.-01.06.2011*, volume 6676, Part II of *Lecture Notes in Computer Science (LNCS)*, pages 496–505. Springer, Berlin/Heidelberg
- 822) Eyben, F., Wöllmer, M., Valstar, M., Gunes, H., Schuller, B., and Pantic, M. (2011b). String-based Audiovisual Fusion of Behavioural Events for the Assessment of Dimensional Affect. In *Proceedings International Workshop on Emotion Synthesis, rePresentation, and Analysis in Continuous space, EmoSPACE 2011, held in conjunction with the 9. IEEE International Conference on Automatic Face & Gesture Recognition and Workshops, FG 2011*, pages 322–329, Santa Barbara, CA. IEEE, IEEE
- 823) Eyben, F., Petridis, S., Schuller, B., Tzimiropoulos, G., Zafeiriou, S., and Pantic, M. (2011a). Audiovisual Classification of Vocal Outbursts in Human Conversation Using Long-Short-Term Memory Networks. In *Proceedings 36. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2011*, pages 5844–5847, Prague, Czech Republic. IEEE, IEEE. (acceptance rate: 49 %)
- 824) Weninger, F., Schuller, B., Wöllmer, M., and Rigoll, G. (2011e). Localization of Non-Linguistic Events in

- Spontaneous Speech by Non-Negative Matrix Factorization and Long Short-Term Memory. In *Proceedings 36. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2011*, pages 5840–5843, Prague, Czech Republic. IEEE, IEEE. (acceptance rate: 49 %)
- 825) Weninger, F. and Schuller, B. (2011a). Audio Recognition in the Wild: Static and Dynamic Classification on a Real-World Database of Animal Vocalizations. In *Proceedings 36. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2011*, pages 337–340, Prague, Czech Republic. IEEE, IEEE. (acceptance rate: 49 %)
- 826) Wöllmer, M., Eyben, F., Schuller, B., and Rigoll, G. (2011b). A Multi-Stream ASR Framework for BLSTM Modeling of Conversational Speech. In *Proceedings 36. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2011*, pages 4860–4863, Prague, Czech Republic. IEEE, IEEE. (acceptance rate: 49 %)
- 827) Weninger, F., Durrieu, J.-L., Eyben, F., Richard, G., and Schuller, B. (2011a). Combining Monaural Source Separation With Long Short-Term Memory for Increased Robustness in Vocalist Gender Recognition. In *Proceedings 36. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2011*, pages 2196–2199, Prague, Czech Republic. IEEE, IEEE. (acceptance rate: 49 %)
- 828) Weninger, F., Lehmann, A., and Schuller, B. (2011c). openBLISSART: Design and Evaluation of a Research Toolkit for Blind Source Separation in Audio Recognition Tasks. In *Proceedings 36. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2011*, pages 1625–1628, Prague, Czech Republic. IEEE, IEEE. (acceptance rate: 49 %)
- 829) Landsiedel, C., Edlund, J., Eyben, F., Neiberg, D., and Schuller, B. (2011). Syllabification of Conversational Speech Using Bidirectional Long-Short-Term Memory Neural Networks. In *Proceedings 36. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2011*, pages 5265–5268, Prague, Czech Republic. IEEE, IEEE. (acceptance rate: 49 %)
- 830) Stuhlsatz, A., Meyer, C., Eyben, F., Zielke, T., Meier, G., and Schuller, B. (2011). Deep Neural Networks for Acoustic Emotion Recognition: Raising the Benchmarks. In *Proceedings 36. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2011*, pages 5688–5691, Prague, Czech Republic. IEEE, IEEE. (acceptance rate: 49 %)
- 831) Schuller, B., Steidl, S., Batliner, A., Burkhardt, F., Devillers, L., Müller, C., and Narayanan, S. (2010g). The INTERSPEECH 2010 Paralinguistic Challenge. In *Proceedings INTERSPEECH 2010, 11th Annual Conference of the International Speech Communication Association*, pages 2794–2797, Makuhari, Japan. ISCA, ISCA. (acceptance rate: 58 %)
- 832) Schuller, B. and Devillers, L. (2010b). Incremental Acoustic Valence Recognition: an Inter-Corpus Perspective on Features, Matching, and Performance in a Gating Paradigm. In *Proceedings INTERSPEECH 2010, 11th Annual Conference of the International Speech Communication Association*, pages 2794–2797, Makuhari, Japan. ISCA, ISCA. (acceptance rate: 58 %)
- 833) Schuller, B., Kozielski, C., Weninger, F., Eyben, F., and Rigoll, G. (2010e). Vocalist Gender Recognition in Recorded Popular Music. In *Proceedings 11th International Society for Music Information Retrieval Conference, ISMIR 2010*, pages 613–618, Utrecht, The Netherlands. ISMIR, ISMIR. (acceptance rate: 61 %)
- 834) Schuller, B., Zaccarelli, R., Rollet, N., and Devillers, L. (2010j). CINEMO -? A French Spoken Language Resource for Complex Emotions: Facts and Baselines. In Calzolari, N., Choukri, K., Maegaard, B., Mariani, J., Odijk, J., Piperidis, S., Rosner, M., and Tapias, D., editors, *Proceedings 7. International Conference on Language Resources and Evaluation, LREC 2010*, pages 1643–1647, Valletta, Malta. ELRA, European Language Resources Association. (acceptance rate: 69 %)
- 835) Schuller, B., Eyben, F., Can, S., and Feussner, H. (2010c). Speech in Minimal Invasive Surgery – Towards an Affective Language Resource of Real-life Medical Operations. In Devillers, L., Schuller, B., Cowie, R., Douglas-Cowie, E., and Batliner, A., editors, *Proceedings 3. International Workshop on EMOTION: Corpora for Research on Emotion and Affect, satellite of LREC 2010*, pages 5–9, Valletta, Malta. ELRA, European Language Resources Association. (acceptance rate: 69 %)
- 836) Schuller, B., Weninger, F., Wöllmer, M., Sun, Y., and Rigoll, G. (2010i). Non-Negative Matrix Factorization as Noise-Robust Feature Extractor for Speech Recognition. In *Proceedings 35. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2010*, pages 4562–4565, Dallas, TX. IEEE, IEEE. (acceptance rate: 48 %)
- 837) Schuller, B. and Burkhardt, F. (2010). Learning with Synthesized Speech for Automatic Emotion Recognition. In *Proceedings 35. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2010*, pages 5150–5155, Dallas, TX. IEEE, IEEE. (acceptance rate: 48 %)
- 838) Schuller, B. and Weninger, F. (2010). Discrimination of Speech and Non-Linguistic Vocalizations by Non-Negative Matrix Factorization. In *Proceedings 35. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2010*, pages 5054–5057, Dallas, TX. IEEE, IEEE. (acceptance rate: 48 %)
- 839) Schuller, B., Metze, F., Steidl, S., Batliner, A., Eyben, F., and Polzehl, T. (2010f). Late Fusion of Individual Engines for Improved Recognition of Negative Emotions in Speech – Learning vs. Democratic Vote. In

- Proceedings 35. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2010*, pages 5230–5233, Dallas, TX. IEEE, IEEE. (acceptance rate: 48 %)
- 840) Metze, F., Batliner, A., Eyben, F., Polzehl, T., Schuller, B., and Steidl, S. (2010). Emotion Recognition using Imperfect Speech Recognition. In *Proceedings INTERSPEECH 2010, 11th Annual Conference of the International Speech Communication Association*, pages 478–481, Makuhari, Japan. ISCA, ISCA. (acceptance rate: 58 %)
- 841) Wöllmer, M., Eyben, F., Schuller, B., and Rigoll, G. (2010c). Recognition of Spontaneous Conversational Speech using Long Short-Term Memory Phoneme Predictions. In *Proceedings INTERSPEECH 2010, 11th Annual Conference of the International Speech Communication Association*, pages 1946–1949, Makuhari, Japan. ISCA, ISCA. (acceptance rate: 58 %)
- 842) Wöllmer, M., Sun, Y., Eyben, F., and Schuller, B. (2010h). Long Short-Term Memory Networks for Noise Robust Speech Recognition. In *Proceedings INTERSPEECH 2010, 11th Annual Conference of the International Speech Communication Association*, pages 2966–2969, Makuhari, Japan. ISCA, ISCA. (acceptance rate: 58 %)
- 843) Wöllmer, M., Metallinou, A., Eyben, F., Schuller, B., and Narayanan, S. (2010f). Context-Sensitive Multimodal Emotion Recognition from Speech and Facial Expression using Bidirectional LSTM Modeling. In *Proceedings INTERSPEECH 2010, 11th Annual Conference of the International Speech Communication Association*, pages 2362–2365, Makuhari, Japan. ISCA, ISCA. (acceptance rate: 58 %)
- 844) Wöllmer, M., Eyben, F., Schuller, B., and Rigoll, G. (2010d). Spoken Term Detection with Connectionist Temporal Classification: a Novel Hybrid CTC-DBN Decoder. In *Proceedings 35. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2010*, pages 5274–5277, Dallas, TX. IEEE, IEEE. (acceptance rate: 48 %)
- 845) Eyben, F., Wöllmer, M., and Schuller, B. (2010e). openSMILE – The Munich Versatile and Fast Open-Source Audio Feature Extractor. In *Proceedings of the 18. ACM International Conference on Multimedia, MM 2010*, pages 1459–1462, Florence, Italy. ACM, ACM. (Honorable Mention (2. place) in the ACM MM 2010 Open-source Software Competition, acceptance rate short paper: about 30 %)
- 846) Arsić, D., Wöllmer, M., Rigoll, G., Roalter, L., Kranz, M., Kaiser, M., Eyben, F., and Schuller, B. (2010). Automated 3D Gesture Recognition Applying Long Short-Term Memory and Contextual Knowledge in a CAVE. In *Proceedings 1. Workshop on Multimodal Pervasive Video Analysis, MPVA 2010, held in conjunction with ACM Multimedia 2010*, pages 33–36, Florence, Italy. ACM, ACM. (acceptance rate short paper: about 30 %)
- 847) Eyben, F., Böck, S., Schuller, B., and Graves, A. (2010b). Universal Onset Detection with Bidirectional Long-Short Term Memory Neural Networks. In *Proceedings 11th International Society for Music Information Retrieval Conference, ISMIR 2010*, pages 589–594, Utrecht, The Netherlands. ISMIR, ISMIR. (acceptance rate: 61 %)
- 848) Brendel, M., Zaccarelli, R., Schuller, B., and Devillers, L. (2010). Towards measuring similarity between emotional corpora. In Devillers, L., Schuller, B., Cowie, R., Douglas-Cowie, E., and Batliner, A., editors, *Proceedings 3. International Workshop on EMOTION: Corpora for Research on Emotion and Affect, satellite of LREC 2010*, pages 58–64, Valletta, Malta. ELRA, European Language Resources Association. (acceptance rate: 69 %)
- 849) Eyben, F., Batliner, A., Schuller, B., Seppi, D., and Steidl, S. (2010a). Cross-Corpus Classification of Realistic Emotions – Some Pilot Experiments. In Devillers, L., Schuller, B., Cowie, R., Douglas-Cowie, E., and Batliner, A., editors, *Proceedings 3. International Workshop on EMOTION: Corpora for Research on Emotion and Affect, satellite of LREC 2010*, pages 77–82, Valletta, Malta. ELRA, European Language Resources Association. (acceptance rate: 69 %)
- 850) de Sevin, E., Bevacqua, E., Pammi, S., Pelachaud, C., Schröder, M., and Schuller, B. (2010). A Multimodal Listener Behaviour Driven by Audio Input. In *Proceedings International Workshop on Interacting with ECAs as Virtual Characters, satellite of AAMAS 2010*, Toronto, Canada. ACM, ACM. 4 pages (acceptance rate: 24 %)
- 851) Schröder, M., Pammi, S., Cowie, R., McKeown, G., Gunes, H., Pantic, M., Valstar, M., Heylen, D., ter Maat, M., Eyben, F., Schuller, B., Wöllmer, M., Bevacqua, E., Pelachaud, C., and de Sevin, E. (2010b). Demo: Have a Chat with Sensitive Artificial Listeners. In *Proceedings 36. Annual Convention of the Society for the Study of Artificial Intelligence and Simulation of Behaviour, AISB 2010*, Leicester, UK. AISB, AISB. Symposium Towards a Comprehensive Intelligence Test, TCIT, 1 page
- 852) Schröder, M., Cowie, R., Heylen, D., Pantic, M., Pelachaud, C., and Schuller, B. (2010a). How to build a machine that people enjoy talking to. In *Proceedings 4. International Conference on Cognitive Systems, CogSys*, Zurich, Switzerland. 1 page
- 853) Seppi, D., Batliner, A., Steidl, S., Schuller, B., and Nöth, E. (2010). Word Accent and Emotion. In *Proceedings 5. International Conference on Speech Prosody, SP 2010*, Chicago, IL. ISCA, ISCA. 4 pages
- 854) Schuller, B., Vlasenko, B., Eyben, F., Rigoll, G., and Wendemuth, A. (2009j). Acoustic Emotion Recognition: A Benchmark Comparison of Performances. In *Proceedings 11th Biannual IEEE Automatic Speech Recognition and Understanding Workshop, ASRU 2009*, pages 552–557, Merano, Italy. IEEE, IEEE. (acceptance rate: 43 %)

- 855) Schuller, B., Steidl, S., and Batliner, A. (2009h). The Interspeech 2009 Emotion Challenge. In *Proceedings INTERSPEECH 2009, 10. Annual Conference of the International Speech Communication Association*, pages 312–315, Brighton, UK. ISCA, ISCA. (acceptance rate: 58 %)
- 856) Schuller, B. and Rigoll, G. (2009). Recognising Interest in Conversational Speech – Comparing Bag of Frames and Supra-segmental Features. In *Proceedings INTERSPEECH 2009, 10. Annual Conference of the International Speech Communication Association*, pages 1999–2002, Brighton, UK. ISCA, ISCA. (acceptance rate: 58 %)
- 857) Schuller, B., Schenk, J., Rigoll, G., and Knaup, T. (2009g). “The Godfather” vs. “Chaos”: Comparing Linguistic Analysis based on Online Knowledge Sources and Bags-of-N-Grams for Movie Review Valence Estimation. In *Proceedings 10. International Conference on Document Analysis and Recognition, ICDAR 2009*, pages 858–862, Barcelona, Spain. IAPR, IEEE. (acceptance rate: 64 %)
- 858) Schuller, B., Can, S., Feussner, H., Wöllmer, M., Arsić, D., and Hörnler, B. (2009c). Speech Control in Surgery: a Field Analysis and Strategies. In *Proceedings 10. IEEE International Conference on Multimedia and Expo, ICME 2009*, pages 1214–1217, New York, NY. IEEE, IEEE. (acceptance rate: about 30 %)
- 859) Schuller, B., Hörnler, B., Arsić, D., and Rigoll, G. (2009d). Audio Chord Labeling by Musiological Modeling and Beat-Synchronization. In *Proceedings 10. IEEE International Conference on Multimedia and Expo, ICME 2009*, pages 526–529, New York, NY. IEEE, IEEE. (acceptance rate: about 30 %)
- 860) Schuller, B. (2009). Traits Prosodiques dans la Modélisation Acoustique à Base de Segment. In Hancil, S., editor, *Proceedings Conférence Internationale sur Prosodie et Iconicité, Prosico 2009*, pages 24–26, Rouen, France
- 861) Schuller, B., Batliner, A., Steidl, S., and Seppi, D. (2009a). Emotion Recognition from Speech: Putting ASR in the Loop. In *Proceedings 34. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2009*, pages 4585–4588, Taipei, Taiwan. IEEE, IEEE. (acceptance rate: 43 %)
- 862) Wöllmer, M., Eyben, F., Schuller, B., and Rigoll, G. (2009e). Robust Vocabulary Independent Keyword Spotting with Graphical Models. In *Proceedings 11th Biannual IEEE Automatic Speech Recognition and Understanding Workshop, ASRU 2009*, pages 349–353, Merano, Italy. IEEE, IEEE. (acceptance rate: 43 %)
- 863) Eyben, F., Wöllmer, M., Schuller, B., and Graves, A. (2009b). From Speech to Letters – Using a novel Neural Network Architecture for Grapheme Based ASR. In *Proceedings 11th Biannual IEEE Automatic Speech Recognition and Understanding Workshop, ASRU 2009*, pages 376–380, Merano, Italy. IEEE, IEEE. (acceptance rate: 43 %)
- 864) Wöllmer, M., Eyben, F., Schuller, B., Douglas-Cowie, E., and Cowie, R. (2009d). Data-driven Clustering in Emotional Space for Affect Recognition Using Discriminatively Trained LSTM Networks. In *Proceedings INTERSPEECH 2009, 10. Annual Conference of the International Speech Communication Association*, pages 1595–1598, Brighton, UK. ISCA, ISCA. (acceptance rate: 58 %)
- 865) Wöllmer, M., Eyben, F., Schuller, B., Sun, Y., Moosmayr, T., and Nguyen-Thien, N. (2009f). Robust In-Car Spelling Recognition – A Tandem BLSTM-HMM Approach. In *Proceedings INTERSPEECH 2009, 10. Annual Conference of the International Speech Communication Association*, pages 2507–2510, Brighton, UK. ISCA, ISCA. (acceptance rate: 58 %)
- 866) Schenk, J., Hörnler, B., Schuller, B., Braun, A., and Rigoll, G. (2009). GMs in On-Line Handwritten Whiteboard Note Recognition: the Influence of Implementation and Modeling. In *Proceedings 10. International Conference on Document Analysis and Recognition, ICDAR 2009*, pages 877–880, Barcelona, Spain. IAPR, IEEE. (acceptance rate: 64 %)
- 867) Hörnler, B., Arsić, D., Schuller, B., and Rigoll, G. (2009a). Boosting Multi-modal Camera Selection with Semantic Features. In *Proceedings 10. IEEE International Conference on Multimedia and Expo, ICME 2009*, pages 1298–1301, New York, NY. IEEE, IEEE. (acceptance rate: about 30 %)
- 868) Wöllmer, M., Eyben, F., Keshet, J., Graves, A., Schuller, B., and Rigoll, G. (2009c). Robust Discriminative Keyword Spotting for Emotionally Colored Spontaneous Speech Using Bidirectional LSTM Networks. In *Proceedings 34. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2009*, pages 3949–3952, Taipei, Taiwan. IEEE, IEEE. (acceptance rate: 43 %)
- 869) Arsić, D., Lyutskanov, A., Schuller, B., and Rigoll, G. (2009b). Applying Bayes Markov Chains for the Detection of ATM Related Scenarios. In *Proceedings 10. IEEE Workshop on Applications of Computer Vision, WACV 2009*, pages 464–471, Snowbird, UT. IEEE, IEEE
- 870) Schröder, M., Bevacqua, E., Eyben, F., Gunes, H., Heylen, D., ter Maat, M., Pammi, S., Pantic, M., Pelachaud, C., Schuller, B., de Sevin, E., Valstar, M., and Wöllmer, M. (2009). A Demonstration of Audiovisual Sensitive Artificial Listeners. In *Proceedings 3. International Conference on Affective Computing and Intelligent Interaction and Workshops, ACII 2009*, volume I, pages 263–264, Amsterdam, The Netherlands. HUMAINE Association, IEEE. Best Technical Demonstration Award
- 871) Eyben, F., Wöllmer, M., and Schuller, B. (2009a). openEAR – Introducing the Munich Open-Source Emotion and Affect Recognition Toolkit. In *Proceedings 3. International Conference on Affective Computing and Intelligent Interaction and Workshops*,

- ACII 2009*, volume I, pages 576–581, Amsterdam, The Netherlands. HUMAINE Association, IEEE
- 872) Wöllmer, M., Eyben, F., Graves, A., Schuller, B., and Rigoll, G. (2009b). A Tandem BLSTM-DBN Architecture for Keyword Spotting with Enhanced Context Modeling. In *Proceedings ISCA Tutorial and Research Workshop on Non-Linear Speech Processing, NOLISP 2009*, Vic, Spain. ISCA, ISCA. 9 pages
- 873) Lehment, N., Arsić, D., Lyutskanov, A., Schuller, B., and Rigoll, G. (2009). Supporting Multi Camera Tracking by Monocular Deformable Graph Tracking. In *Proceedings 11th IEEE International Workshop on Performance Evaluation of Tracking and Surveillance, PETS 2009, in conjunction with the IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2009*, pages 87–94, Miami, FL. IEEE, IEEE. (acceptance rate: 26 %)
- 874) Arsić, D., Schuller, B., Hörnler, B., and Rigoll, G. (2009c). A Hierarchical Approach for Visual Suspicious Behavior Detection in Aircrafts. In *Proceedings 16. International Conference on Digital Signal Processing, DSP 2009*, Santorini, Greece. IEEE, IEEE. 7 pages (acceptance rate oral: 38 %)
- 875) Arsić, D., Hörnler, B., Schuller, B., and Rigoll, G. (2009a). Resolving Partial Occlusions in Crowded Environments Utilizing Range Data and Video Cameras. In *Proceedings 16. International Conference on Digital Signal Processing, DSP 2009*, Santorini, Greece. IEEE, IEEE. 6 pages (acceptance rate oral: 38 %)
- 876) Hörnler, B., Arsić, D., Schuller, B., and Rigoll, G. (2009b). Graphical Models for Multi-Modal Automatic Video Editing in Meetings. In *Proceedings 16. International Conference on Digital Signal Processing, DSP 2009*, Santorini, Greece. IEEE, IEEE. 8 pages (acceptance rate oral: 38 %)
- 877) Batliner, A., Steidl, S., Eyben, F., and Schuller, B. (2009). Laughter in Child-Robot Interaction. In *Proceedings Interdisciplinary Workshop on Laughter and other Interactional Vocalisations in Speech, Laughter 2009*, Berlin, Germany
- 878) Schuller, B., Batliner, A., Steidl, S., and Seppi, D. (2008a). Does Affect Affect Automatic Recognition of Children’s Speech? In *Proceedings 1. Workshop on Child, Computer and Interaction, WOCCI 2008, ACM ICMI 2008 post-conference workshop*, Chania, Greece. ISCA, ISCA. 4 pages (acceptance rate: 44 %)
- 879) Seppi, D., Gerosa, M., Schuller, B., Batliner, A., and Steidl, S. (2008b). Detecting Problems in Spoken Child-Computer Interaction. In *Proceedings 1. Workshop on Child, Computer and Interaction, WOCCI 2008, ACM ICMI 2008 post-conference workshop*, Chania, Greece. ISCA, ISCA. 4 pages (acceptance rate: 44 %)
- 880) Schuller, B., Wöllmer, M., Moosmayr, T., and Rigoll, G. (2008l). Speech Recognition in Noisy Environments using a Switching Linear Dynamic Model for Feature Enhancement. In *Proceedings INTERSPEECH 2008, 9. Annual Conference of the International Speech Communication Association, incorporating 12th Australasian International Conference on Speech Science and Technology, SST 2008*, pages 1789–1792, Brisbane, Australia. ISCA/ASSTA, ISCA. Special Session Human-Machine Comparisons of Consonant Recognition in Noise (Consonant Challenge) (acceptance rate: 59 %)
- 881) Schuller, B., Zhang, X., and Rigoll, G. (2008n). Prosodic and Spectral Features within Segment-based Acoustic Modeling. In *Proceedings INTERSPEECH 2008, 9. Annual Conference of the International Speech Communication Association, incorporating 12th Australasian International Conference on Speech Science and Technology, SST 2008*, pages 2370–2373, Brisbane, Australia. ISCA/ASSTA, ISCA. (acceptance rate: 59 %)
- 882) Schuller, B., Wimmer, M., Arsić, D., Moosmayr, T., and Rigoll, G. (2008i). Detection of Security Related Affect and Behaviour in Passenger Transport. In *Proceedings INTERSPEECH 2008, 9. Annual Conference of the International Speech Communication Association, incorporating 12th Australasian International Conference on Speech Science and Technology, SST 2008*, pages 265–268, Brisbane, Australia. ISCA/ASSTA, ISCA. (acceptance rate: 59 %)
- 883) Schuller, B., Dibiasi, F., Eyben, F., and Rigoll, G. (2008c). One Day in Half an Hour: Music Thumbnailing Incorporating Harmony- and Rhythm Structure. In *Proceedings 6. Workshop on Adaptive Multimedia Retrieval, AMR 2008*, Berlin, Germany. 10 pages
- 884) Schuller, B., Rigoll, G., Can, S., and Feussner, H. (2008g). Emotion Sensitive Speech Control for Human-Robot Interaction in Minimal Invasive Surgery. In *Proceedings 17. IEEE International Symposium on Robot and Human Interactive Communication, RO-MAN 2008*, pages 453–458, Munich, Germany. IEEE, IEEE
- 885) Schuller, B., Vlasenko, B., Arsić, D., Rigoll, G., and Wendemuth, A. (2008h). Combining Speech Recognition and Acoustic Word Emotion Models for Robust Text-Independent Emotion Recognition. In *Proceedings 9. IEEE International Conference on Multimedia and Expo, ICME 2008*, pages 1333–1336, Hannover, Germany. IEEE, IEEE. (acceptance rate: 50 %)
- 886) Schuller, B., Wimmer, M., Mösenlechner, L., Kern, C., Arsić, D., and Rigoll, G. (2008j). Brute-Forcing Hierarchical Functionals for Paralinguistics: a Waste of Feature Space? In *Proceedings 33. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2008*, pages 4501–4504, Las Vegas, NV. IEEE, IEEE. (acceptance rate: 50 %)
- 887) Wöllmer, M., Eyben, F., Reiter, S., Schuller, B., Cox, C., Douglas-Cowie, E., and Cowie, R. (2008). Abandoning Emotion Classes – Towards Continuous Emotion Recognition with Modelling of Long-Range Dependencies. In *Proceedings INTERSPEECH 2008, 9. Annual Conference of the International Speech*

- Communication Association, incorporating 12th Australasian International Conference on Speech Science and Technology, SST 2008*, pages 597–600, Brisbane, Australia. ISCA/ASSTA, ISCA. (acceptance rate: 59%)
- 888) Seppi, D., Batliner, A., Schuller, B., Steidl, S., Vogt, T., Wagner, J., Devillers, L., Vidrascu, L., Amir, N., and Aharonson, V. (2008a). Patterns, Prototypes, Performance: Classifying Emotional User States. In *Proceedings INTERSPEECH 2008, 9. Annual Conference of the International Speech Communication Association, incorporating 12th Australasian International Conference on Speech Science and Technology, SST 2008*, pages 601–604, Brisbane, Australia. ISCA/ASSTA, ISCA. (acceptance rate: 59%)
- 889) Vlasenko, B., Schuller, B., Mengistu, K. T., Rigoll, G., and Wendemuth, A. (2008a). Balancing Spoken Content Adaptation and Unit Length in the Recognition of Emotion and Interest. In *Proceedings INTERSPEECH 2008, 9. Annual Conference of the International Speech Communication Association, incorporating 12th Australasian International Conference on Speech Science and Technology, SST 2008*, pages 805–808, Brisbane, Australia. ISCA/ASSTA, ISCA. (acceptance rate: 59%)
- 890) Batliner, A., Schuller, B., Schaeffler, S., and Steidl, S. (2008a). Mothers, Adults, Children, Pets – Towards the Acoustics of Intimacy. In *Proceedings 33. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2008*, pages 4497–4500, Las Vegas, NV. IEEE, IEEE. (acceptance rate: 50%)
- 891) Arsić, D., Schuller, B., and Rigoll, G. (2008b). Multiple Camera Person Tracking in multiple layers combining 2D and 3D information. In *Proceedings Workshop on Multi-camera and Multi-modal Sensor Fusion Algorithms and Applications, M2SFA2 2008, in conjunction with 10. European Conference on Computer Vision, ECCV 2008*, pages 1–12, Marseille, France. (acceptance rate: about 23%)
- 892) Schröder, M., Cowie, R., Heylen, D., Pantic, M., Pelachaud, C., and Schuller, B. (2008). Towards responsive Sensitive Artificial Listeners. In *Proceedings 4. International Workshop on Human-Computer Conversation, Bellagio, Italy*. 6 pages
- 893) Arsić, D., Lehment, N., Hristov, E., Schuller, B., and Rigoll, G. (2008a). Applying Multi Layer Homography for Multi Camera tracking. In *Proceedings Workshop on Activity Monitoring by Multi-Camera Surveillance Systems, AMMCSS 2008, in conjunction with 2. ACM/IEEE International Conference on Distributed Smart Cameras, ICDSC 2008*, Stanford, CA. ACM/IEEE, IEEE. 9 pages
- 894) Wimmer, M., Schuller, B., Arsić, D., Radig, B., and Rigoll, G. (2008). Low-Level Fusion of Audio and Video Features For Multi-Modal Emotion Recognition. In *Proceedings 3. International Conference on Computer Vision Theory and Applications, VISAPP 2008*, Funchal, Portugal. 7 pages
- 895) Schuller, B., Vlasenko, B., Minguez, R., Rigoll, G., and Wendemuth, A. (2007f). Comparing One and Two-Stage Acoustic Modeling in the Recognition of Emotion in Speech. In *Proceedings 10. Biannual IEEE Automatic Speech Recognition and Understanding Workshop, ASRU 2007*, pages 596–600, Kyoto, Japan. IEEE, IEEE. (acceptance rate: 43%)
- 896) Schuller, B., Batliner, A., Seppi, D., Steidl, S., Vogt, T., Wagner, J., Devillers, L., Vidrascu, L., Amir, N., Kessous, L., and Aharonson, V. (2007a). The Relevance of Feature Type for the Automatic Classification of Emotional User States: Low Level Descriptors and Functionals. In *Proceedings INTERSPEECH 2007, 8. Annual Conference of the International Speech Communication Association*, pages 2253–2256, Antwerp, Belgium. ISCA, ISCA. (acceptance rate: 59%)
- 897) Schuller, B., Seppi, D., Batliner, A., Maier, A., and Steidl, S. (2007e). Towards More Reality in the Recognition of Emotional Speech. In *Proceedings 32. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2007*, volume IV, pages 941–944, Honolulu, HI. IEEE, IEEE. (acceptance rate: 46%)
- 898) Schuller, B., Wimmer, M., Arsić, D., Rigoll, G., and Radig, B. (2007g). Audiovisual Behavior Modeling by Combined Feature Spaces. In *Proceedings 32. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2007*, volume II, pages 733–736, Honolulu, HI. IEEE, IEEE. (acceptance rate: 46%)
- 899) Schuller, B., Eyben, F., and Rigoll, G. (2007b). Fast and Robust Meter and Tempo Recognition for the Automatic Discrimination of Ballroom Dance Styles. In *Proceedings 32. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2007*, volume I, pages 217–220, Honolulu, HI. IEEE, IEEE. (acceptance rate: 46%)
- 900) Vlasenko, B., Schuller, B., Wendemuth, A., and Rigoll, G. (2007a). Combining Frame and Turn-Level Information for Robust Recognition of Emotions within Speech. In *Proceedings INTERSPEECH 2007, 8. Annual Conference of the International Speech Communication Association*, pages 2249–2252, Antwerp, Belgium. ISCA, ISCA. (acceptance rate: 59%)
- 901) Arsić, D., Hofmann, M., Schuller, B., and Rigoll, G. (2007a). Multi-Camera Person Tracking and Left Luggage Detection Applying Homographic Transformation. In Ferryman, J. M., editor, *Proceedings 10. IEEE International Workshop on Performance Evaluation of Tracking and Surveillance, PETS 2007, in association with ICCV 2007*, pages 55–62, Rio de Janeiro, Brazil. IEEE, IEEE. (acceptance rate: 24%)
- 902) Batliner, A., Steidl, S., Schuller, B., Seppi, D., Vogt, T., Devillers, L., Vidrascu, L., Amir, N., Kessous, L., and Aharonson, V. (2007). The Impact of F0 Extraction Errors on the Classification of Prominence and



- Emotion. In *Proceedings 16. International Congress of Phonetic Sciences, ICPHS 2007*, pages 2201–2204, Saarbrücken, Germany. (acceptance rate: 66 %)
- 903) Eyben, F., Schuller, B., Reiter, S., and Rigoll, G. (2007). Wearable Assistance for the Ballroom-Dance Hobbyist – Holistic Rhythm Analysis and Dance-Style Classification. In *Proceedings 8. IEEE International Conference on Multimedia and Expo, ICME 2007*, pages 92–95, Beijing, China. IEEE, IEEE. (acceptance rate: 45 %)
- 904) Reiter, S., Schuller, B., and Rigoll, G. (2007). Hidden Conditional Random Fields for Meeting Segmentation. In *Proceedings 8. IEEE International Conference on Multimedia and Expo, ICME 2007*, pages 639–642, Beijing, China. IEEE, IEEE. (acceptance rate: 45 %)
- 905) Arsić, D., Schuller, B., and Rigoll, G. (2007b). Suspicious Behavior Detection In Public Transport by Fusion of Low-Level Video Descriptors. In *Proceedings 8. IEEE International Conference on Multimedia and Expo, ICME 2007*, pages 2018–2021, Beijing, China. IEEE, IEEE. (acceptance rate: 45 %)
- 906) Schuller, B. and Rigoll, G. (2006b). Timing Levels in Segment-Based Speech Emotion Recognition. In *Proceedings INTERSPEECH 2006, 9. International Conference on Spoken Language Processing, ICSLP*, pages 1818–1821, Pittsburgh, PA. ISCA, ISCA
- 907) Schuller, B., Köhler, N., Müller, R., and Rigoll, G. (2006c). Recognition of Interest in Human Conversational Speech. In *Proceedings INTERSPEECH 2006, 9. International Conference on Spoken Language Processing, ICSLP*, pages 793–796, Pittsburgh, PA. ISCA, ISCA
- 908) Schuller, B., Reiter, S., and Rigoll, G. (2006e). Evolutionary Feature Generation in Speech Emotion Recognition. In *Proceedings 7. IEEE International Conference on Multimedia and Expo, ICME 2006*, pages 5–8, Toronto, Canada. IEEE, IEEE. (acceptance rate: 51 %)
- 909) Schuller, B., Wallhoff, F., Arsić, D., and Rigoll, G. (2006g). Musical Signal Type Discrimination Based on Large Open Feature Sets. In *Proceedings 7. IEEE International Conference on Multimedia and Expo, ICME 2006*, pages 1089–1092, Toronto, Canada. IEEE, IEEE. (acceptance rate: 51 %)
- 910) Schuller, B., Arsić, D., Wallhoff, F., and Rigoll, G. (2006b). Emotion Recognition in the Noise Applying Large Acoustic Feature Sets. In *Proceedings 3. International Conference on Speech Prosody, SP 2006*, pages 276–289, Dresden, Germany. ISCA, ISCA
- 911) Al-Hames, M., Zettl, S., Wallhoff, F., Reiter, S., Schuller, B., and Rigoll, G. (2006). A Two-Layer Graphical Model for Combined Video Shot And Scene Boundary Detection. In *Proceedings 7. IEEE International Conference on Multimedia and Expo, ICME 2006*, pages 261–264, Toronto, Canada. IEEE, IEEE. (acceptance rate: 51 %)
- 912) Arsić, D., Schenk, J., Schuller, B., Wallhoff, F., and Rigoll, G. (2006). Submotions for Hidden Markov Model Based Dynamic Facial Action Recognition. In *Proceedings 13th IEEE International Conference on Image Processing, ICIP 2006*, pages 673–676, Atlanta, GA. IEEE, IEEE. (acceptance rate: 41 %)
- 913) Batliner, A., Steidl, S., Schuller, B., Seppi, D., Laskowski, K., Vogt, T., Devillers, L., Vidrascu, L., Amir, N., Kessous, L., and Aharonson, V. (2006). Combining Efforts for Improving Automatic Classification of Emotional User States. In *Proceedings 5. Slovenian and 1. International Language Technologies Conference, ISLTC 2006*, pages 240–245, Ljubljana, Slovenia. Slovenian Language Technologies Society
- 914) Reiter, S., Schuller, B., and Rigoll, G. (2006a). A combined LSTM-RNN-HMM-Approach for Meeting Event Segmentation and Recognition. In *Proceedings 31. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2006*, volume 2, pages 393–396, Toulouse, France. IEEE, IEEE. (acceptance rate: 49 %)
- 915) Reiter, S., Schuller, B., and Rigoll, G. (2006b). Segmentation and Recognition of Meeting Events Using a Two-Layered HMM and a Combined MLP-HMM Approach. In *Proceedings 7. IEEE International Conference on Multimedia and Expo, ICME 2006*, pages 953–956, Toronto, Canada. IEEE, IEEE. (acceptance rate: 51 %)
- 916) Wallhoff, F., Schuller, B., Hawellek, M., and Rigoll, G. (2006). Efficient Recognition of Authentic Dynamic Facial Expressions on the FEEDTUM Database. In *Proceedings 7. IEEE International Conference on Multimedia and Expo, ICME 2006*, pages 493–496, Toronto, Canada. IEEE, IEEE. (acceptance rate: 51 %)
- 917) Schuller, B., Arsić, D., Wallhoff, F., Lang, M., and Rigoll, G. (2005a). Bioanalog Acoustic Emotion Recognition by Genetic Feature Generation Based on Low-Level-Descriptors. In *Proceedings International Conference on Computer as a Tool, EUROCON 2005*, volume 2, pages 1292–1295, Belgrade, Serbia and Montenegro. IEEE, IEEE
- 918) Schuller, B., Schmitt, B. J. B., Arsić, D., Reiter, S., Lang, M., and Rigoll, G. (2005f). Feature Selection and Stacking for Robust Discrimination of Speech, Monophonic Singing, and Polyphonic Music. In *Proceedings 6. IEEE International Conference on Multimedia and Expo, ICME 2005*, pages 840–843, Amsterdam, The Netherlands. IEEE, IEEE. (acceptance rate: 23 %)
- 919) Schuller, B., Reiter, S., Müller, R., Al-Hames, M., Lang, M., and Rigoll, G. (2005d). Speaker Independent Speech Emotion Recognition by Ensemble Classification. In *Proceedings 6. IEEE International Conference on Multimedia and Expo, ICME 2005*, pages 864–867, Amsterdam, The Netherlands. IEEE, IEEE. (acceptance rate: 23 %)
- 920) Schuller, B., Villar, R. J., Rigoll, G., and Lang, M. (2005g). Meta-Classifiers in Acoustic and Linguistic Feature Fusion-Based Affect Recognition. In *Proceed-*



- ings 30. *IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2005*, volume I, pages 325–328, Philadelphia, PA. IEEE, IEEE. (acceptance rate: 52%)
- 921) Arsić, D., Wallhoff, F., Schuller, B., and Rigoll, G. (2005a). Bayesian Network Based Multi Stream Fusion for Automated Online Video Surveillance. In *Proceedings International Conference on Computer as a Tool, EUROCON 2005*, volume 2, pages 995–998, Belgrade, Serbia and Montenegro. IEEE, IEEE
- 922) Arsić, D., Wallhoff, F., Schuller, B., and Rigoll, G. (2005c). Vision-Based Online Multi-Stream Behavior Detection Applying Bayesian Networks. In *Proceedings 6. IEEE International Conference on Multimedia and Expo, ICME 2005*, pages 1354–1357, Amsterdam, The Netherlands. IEEE, IEEE. (acceptance rate: 23%)
- 923) Arsić, D., Wallhoff, F., Schuller, B., and Rigoll, G. (2005b). Video Based Online Behavior Detection Using Probabilistic Multi-Stream Fusion. In *Proceedings 12th IEEE International Conference on Image Processing, ICIP 2005*, volume 2, pages 606–609, Genova, Italy. IEEE, IEEE. (acceptance rate: about 45%)
- 924) Müller, R., Schreiber, S., Schuller, B., and Rigoll, G. (2005). A System Structure for Multimodal Emotion Recognition in Meeting Environments. In Renals, S. and Bengio, S., editors, *Proceedings 2. International Workshop on Machine Learning for Multimodal Interaction, MLMI 2005*, Edinburgh, UK. 2 pages
- 925) Wallhoff, F., Schuller, B., and Rigoll, G. (2005b). Speaker Identification – Comparing Linear Regression Based Adaptation and Acoustic High-Level Features. In *Proceedings 31. Jahrestagung für Akustik, DAGA 2005*, pages 221–222, Munich, Germany. DEGA, DEGA
- 926) Wallhoff, F., Arsić, D., Schuller, B., Stadermann, J., Störmer, A., and Rigoll, G. (2005a). Hybrid Profile Recognition on the Mugshot Database. In *Proceedings International Conference on Computer as a Tool, EUROCON 2005*, volume 2, pages 1405–1408, Belgrade, Serbia and Montenegro. IEEE, IEEE
- 927) Schuller, B., Rigoll, G., and Lang, M. (2004d). Multimodal Music Retrieval for Large Databases. In *Proceedings 5. IEEE International Conference on Multimedia and Expo, ICME 2004*, volume 2, pages 755–758, Taipei, Taiwan. IEEE, IEEE. Special Session Novel Techniques for Browsing in Large Multimedia Collections (acceptance rate: 30%)
- 928) Schuller, B., Rigoll, G., and Lang, M. (2004b). Discrimination of Speech and Monophonic Singing in Continuous Audio Streams Applying Multi-Layer Support Vector Machines. In *Proceedings 5. IEEE International Conference on Multimedia and Expo, ICME 2004*, volume 3, pages 1655–1658, Taipei, Taiwan. IEEE, IEEE. (acceptance rate: 30%)
- 929) Schuller, B., Rigoll, G., and Lang, M. (2004c). Emotion Recognition in the Manual Interaction with Graphical User Interfaces. In *Proceedings 5. IEEE International Conference on Multimedia and Expo, ICME 2004*, volume 2, pages 1215–1218, Taipei, Taiwan. IEEE, IEEE. (acceptance rate: 30%)
- 930) Schuller, B., Müller, R., Rigoll, G., and Lang, M. (2004a). Applying Bayesian Belief Networks in Approximate String Matching for Robust Keyword-based Retrieval. In *Proceedings 5. IEEE International Conference on Multimedia and Expo, ICME 2004*, volume 3, pages 1999–2002, Taipei, Taiwan. IEEE, IEEE. (acceptance rate: 30%)
- 931) Schuller, B., Rigoll, G., and Lang, M. (2004e). Speech Emotion Recognition Combining Acoustic Features and Linguistic Information in a Hybrid Support Vector Machine-Belief Network Architecture. In *Proceedings 29. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2004*, volume I, pages 577–580, Montreal, QC. IEEE, IEEE. (acceptance rate: 54%)
- 932) Müller, R., Schuller, B., and Rigoll, G. (2004b). Enhanced Robustness in Speech Emotion Recognition Combining Acoustic and Semantic Analysis. In *Proceedings HUMAINE Workshop From Signals to Signs of Emotion and Vice Versa*, page 2 pages, Santorini, Greece. HUMAINE
- 933) Müller, R., Schuller, B., and Rigoll, G. (2004a). Belief Networks in Natural Language Processing for Improved Speech Emotion Recognition. In Bengio, S. and Bourlard, H., editors, *Proceedings 1. International Workshop on Machine Learning for Multimodal Interaction, MLMI 2004*, Martigny, Switzerland. 1 page
- 934) Schuller, B., Rigoll, G., and Lang, M. (2003d). Sprachliche Emotionserkennung im Fahrzeug. In *Proceedings 45. Fachausschusssitzung Anthropotechnik, Entscheidungsunterstützung für die Fahrzeug- und Prozessführung*, volume DGLR Bericht 2003-04, pages 227–240, Neubiberg, Germany. Deutsche Gesellschaft für Luft- und Raumfahrt, Deutsche Gesellschaft für Luft- und Raumfahrt
- 935) Schuller, B., Rigoll, G., and Lang, M. (2003a). Hidden Markov Model-based Speech Emotion Recognition. In *Proceedings 4. IEEE International Conference on Multimedia and Expo, ICME 2003*, volume I, pages 401–404, Baltimore, MD. IEEE, IEEE. (acceptance rate: 58%)
- 936) Schuller, B., Zobl, M., Rigoll, G., and Lang, M. (2003e). A Hybrid Music Retrieval System using Belief Networks to Integrate Queries and Contextual Knowledge. In *Proceedings 4. IEEE International Conference on Multimedia and Expo, ICME 2003*, volume I, pages 57–60, Baltimore, MD. IEEE, IEEE. (acceptance rate: 58%)
- 937) Schuller, B., Rigoll, G., and Lang, M. (2003c). HMM-Based Music Retrieval Using Stereophonic Feature Information and Framelength Adaptation. In *Proceedings 4. IEEE International Conference on Multimedia and Expo, ICME 2003*, volume II, pages 713–

- 716, Baltimore, MD. IEEE, IEEE. (acceptance rate: 58 %)
- 938) Schuller, B., Rigoll, G., and Lang, M. (2003b). Hidden Markov Model-based Speech Emotion Recognition. In *Proceedings 28. IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2003*, volume II, pages 1–4, Hong Kong, China. IEEE, IEEE. (acceptance rate: 54 %)
- 939) Zobl, M., Geiger, M., Schuller, B., Rigoll, G., and Lang, M. (2003). A Realtime System for Hand-Gesture Controlled Operation of In-Car Devices. In *Proceedings 4. IEEE International Conference on Multimedia and Expo, ICME 2003*, volume III, pages 541–544, Baltimore, MD. IEEE, IEEE. (acceptance rate: 58 %)
- 940) Schuller, B. (2002). Towards intuitive speech interaction by the integration of emotional aspects. In *Proceedings IEEE International Conference on Systems, Man and Cybernetics, SMC 2002*, volume 6, Yasmine Hammamet, Tunisia. IEEE, IEEE. 6 pages
- 941) Schuller, B., Althoff, F., McGlaun, G., Lang, M., and Rigoll, G. (2002a). Towards Automation of Usability Studies. In *Proceedings IEEE International Conference on Systems, Man and Cybernetics, SMC 2002*, volume 5, Yasmine Hammamet, Tunisia. IEEE, IEEE. 6 pages
- 942) Schuller, B., Lang, M., and Rigoll, G. (2002c). Multimodal Emotion Recognition in Audiovisual Communication. In *Proceedings 3. IEEE International Conference on Multimedia and Expo, ICME 2002*, volume 1, pages 745–748, Lausanne, Switzerland. IEEE, IEEE. (acceptance rate: 50 %)
- 943) Schuller, B., Lang, M., and Rigoll, G. (2002b). Automatic Emotion Recognition by the Speech Signal. In *Proceedings 6. World Multiconference on Systemics, Cybernetics and Informatics, SCI 2002*, volume IX, pages 367–372, Orlando, FL. SCI, SCI
- 944) Schuller, B. and Lang, M. (2002). Integrative rapid-prototyping for multimodal user interfaces. In *Proceedings USEWARE 2002, Mensch – Maschine – Kommunikation /Design*, volume VDI report #1678, pages 279–284, Darmstadt, Germany. VDI, VDI-Verlag
- 945) Althoff, F., Geiss, K., McGlaun, G., Schuller, B., and Lang, M. (2002a). Experimental Evaluation of User Errors at the Skill-Based Level in an Automotive Environment. In *Proceedings International Conference on Human Factors in Computing Systems, CHI 2002*, pages 782–783, Minneapolis, MN. ACM, ACM. (acceptance rate: 15 %)
- 946) Althoff, F., McGlaun, G., Schuller, B., Lang, M., and Rigoll, G. (2002b). Evaluating Misinterpretations during Human-Machine Communication in Automotive Environments. In *Proceedings 6. World Multiconference on Systemics, Cybernetics and Informatics, SCI 2002*, volume VII, Orlando, FL. SCI, SCI. 5 pages
- 947) McGlaun, G., Althoff, F., Schuller, B., and Lang, M. (2002). A new technique for adjusting distraction moments in multitasking non-field usability tests. In *Proceedings International Conference on Human Factors in Computing Systems, CHI 2002*, pages 666–667, Minneapolis, MN. ACM, ACM. (acceptance rate: 15 %)
- 948) Schuller, B., Althoff, F., McGlaun, G., and Lang, M. (2001). Navigation in virtual worlds via natural speech. In Stephanidis, C., editor, *Proceedings 9. International Conference on Human-Computer Interaction, HCI International 2001*, pages 19–21, New Orleans, LA. Lawrence Erlbaum
- 949) Althoff, F., McGlaun, G., Schuller, B., Morguet, P., and Lang, M. (2001). Using Multimodal Interaction to Navigate in Arbitrary Virtual VRML Worlds. In *Proceedings 3. International Workshop on Perceptive User Interfaces, PUI 2001*, Orlando, FL. ACM, ACM. 8 pages (acceptance rate: 29 %)

#### D) PATENTS (9)

- 950) Eyben, F., Schuller, B., and Triantafyllopoulos, A. (2022). Speech analyser and related method. European/US patent, pending
- 951) Markovic, M., Eyben, F., Crespi, A., and Schuller, B. (2020). Segmentation-based Feature Extraction for Acoustic Scene Classification. Chinese/European/US patent, granted
- 952) Taghizadeh, M., Keren, G., Liu, S., and Schuller, B. (2019). Audio Processing Apparatus and Method for Denoising a Multi-Channel Audio Signal. Huawei Technologies Co Ltd, Technische Universität München, European patent, pending
- 953) Kehrenberg, T., Keren, G., Schuller, B., Grosche, P., and Jin, W. (2018). A Sound Processing Apparatus and Method for Sound Enhancement. Huawei Technologies Co Ltd, Technische Universität München, European patent, pending
- 954) Eyben, F., Scherer, K., and Schuller, B. (2017a). Method for Automatic Affective State Inference and Automated Affective State Inference System. Chinese/European/US patent, granted
- 955) Schuller, B., Weninger, F., Kirst, C., and Grosche, P. (2013k). Apparatus and Method for Improving a Perception of a Sound Signal. Huawei Technologies Co Ltd, Technische Universität München, Chinese/European/US/World patent, granted
- 956) Joder, C., Weninger, F., Schuller, B., and Virette, D. (2012c). Method for Determining a Dictionary of Base Components from an Audio Signal. Huawei Technologies Co Ltd, Technische Universität München, European/World patent, granted
- 957) Joder, C., Weninger, F., Schuller, B., and Virette, D. (2012b). Method and Device for Reconstructing a Target Signal from a Noisy Input Signal. Huawei Technologies Co Ltd, Technische Universität München, Chinese/European/US/World patent, granted
- 958) Burkhardt, F. and Schuller, B. (2009). Method and system for training speech processing de-

vices. Deutsche Telekom AG, Technische Universität München, European patent, pending

#### E) OTHER

##### Theses (3):

- 959) Schuller, B. (2012a). *Intelligent Audio Analysis – Speech, Music, and Sound Recognition in Real-Life Conditions*. Habilitation thesis, Technische Universität München, Munich, Germany. 313 pages
- 960) Schuller, B. (2006). *Automatische Emotionserkennung aus sprachlicher und manueller Interaktion*. Doctoral thesis, Technische Universität München, Munich, Germany. 244 pages
- 961) Schuller, B. (1999). *Automatisches Verstehen gesprochener mathematischer Formeln*. Diploma thesis, Technische Universität München, Munich, Germany

##### Editorials and Edited Volumes (75):

- 962) Qian, K., Schuller, B. W., Guan, X., and Hu, B. (2023). Intelligent Music Intervention for Mental Disorders: Insights and Perspectives. *IEEE Transactions on Computational Social Systems*, 10. 3 pages, editorial, to appear (IF: 5.357 (2020))
- 963) Schuller, B. W., Löchner, J., Qian, K., and Hu, B. (2022e). COVID-19’s Impact on Mental Health – The Hour of Computational Aid? *IEEE Transactions on Computational Social Systems*, 9(4):967–973. editorial (IF: 5.357 (2020))
- 964) Schuller, B. W., Löchner, J., Qian, K., and Hu, B. (2022f). Digital Mental Health – Breaking a Lance for Prevention. *IEEE Transactions on Computational Social Systems*, 9(6):1584–1588. editorial (IF: 5.357 (2020))
- 965) Schuller, B., Eldar, Y., Pantic, M., Narayanan, S., Virtanen, T., and Tao, J. (2022a). Intelligent Signal Analysis for Contagious Virus Diseases. *IEEE Journal of Selected Topics in Signal Processing, Special Issue on Intelligent Signal Analysis for Contagious Virus Diseases*, 16(2):159–163. editorial (IF: 6.856 (2020))
- 966) Amiriparian, S., Schuller, B. W., Asghar, N., Zen, H., and Burkhardt, F. (2022e). Guest Editorial: Special Issue on Affective Speech and Language Synthesis, Generation, and Conversion. *IEEE Transactions on Affective Computing, Special Issue on Affective Speech and Language Synthesis, Generation, and Conversion*. 4 pages, to appear (IF: 13.99 (2021))
- 967) Amiriparian, S., Christ, L., König, A., Cowen, A., Meßner, E.-M., Cambria, E., and Schuller, B. W., editors (2022b). *MuSe’ 22: Proceedings of the 3. International on Multimodal Sentiment Analysis Workshop and Challenge*, Lisbon, Portugal. ACM, ACM. co-located with ACM Multimedia 2022, MM 2022
- 968) Baird, A., Tzirakis, P., Gidel, G., Jiralerspong, M., Muller, E. B., Mathewson, K., Schuller, B., Cambria, E., Keltner, D., and Cowen, A. (2022c). Proceedings of the ICML 2022 Expressive Vocalizations Workshop and Competition: Recognizing, Generating, and Personalizing Vocal Bursts. *arxiv.org*, (2207.06958). Proceedings of the ICML Expressive Vocalizations Workshop and Competition (ExVo 2022) held in conjunction with the 39. International Conference on Machine Learning (ICML 2022), Baltimore, MD
- 969) Baird, A., Tzirakis, P., Brooks, J. A., Gregory, C. B., Schuller, B., Batliner, A., Keltner, D., and Cowen, A. (2022a). Proceedings of the ACII Affective Vocal Bursts Workshop and Competition 2022 (A-VB): Understanding a critically understudied modality of emotional expression. *arxiv.org*, (2210.15754). Proceedings of the ACII Affective Vocal Bursts Workshop and Competition 2022 (A-VB) held in conjunction with the 10. International Conference on Affective Computing (ACII 2022), Nara, Japan
- 970) Hu, B., Qian, K., Dong, Q., Luo, Y., Yamamoto, Y., and Schuller, B. W. (2022a). Psychological Field versus Physiological Field: From Qualitative Analysis to Quantitative Modelling of the Mental Status. *IEEE Transactions on Computational Social Systems*, 9(5):1275–1281. editorial (IF: 5.357 (2020))
- 971) Hu, B., Qian, K., Zhang, Y., Shen, J., and Schuller, B. W. (2022b). The Inverse Problems for Computational Psychophysiology: Opinions and Insights. *Cyborg and Bionic Systems*, 2022(Article ID 9850248):1–3. editorial
- 972) Mehta, Y., Stachl, C., Markov, K., Yun, J. T., and Schuller, B. W. (2022). Future-Generation Personality Prediction from Digital Footprints. *Future Generation Computer Systems, Special Issue on Future-Generation Personality Prediction from Digital Footprints*, 136(C):322–325. editorial (IF: 7.187 (2021))
- 973) Wen, S., Huang, T., Schuller, B. W., and Azar, A. T. (2022). Guest Editorial Introduction to the Special Section on Efficient Network Design for Convergence of Deep Learning and Edge Computing. *IEEE Transactions on Network Science and Engineering, Special Section on Efficient Network Design for Convergence of Deep Learning and Edge Computing*, 9(1):109–110. (IF: 3.894 (2021))
- 974) Schuller, B. W., Picard, R., André, E., Gratch, J., and Tao, J. (2021f). Intelligent Signal Processing for Affective Computing [From the Guest Editors]. *Signal Processing Magazine, Special Issue on Intelligent Signal Processing for Affective Computing*, 38(6):9–11. editorial (IF: 12.551 (2021))
- 975) Schuller, B. W., Stappen, L., Meßner, E.-M., Cambria, E., and Zhao, G., editors (2021h). *MuSe ’21: Proceedings of the 2. on Multimodal Sentiment Analysis Challenge*, Chengdu, China. ACM, ACM. co-located with ACM Multimedia 2021, MM 2021
- 976) Quadrianto, N., Schuller, B. W., and Lattimore, F. R. (2021). Editorial: Ethical Machine Learning and Artificial Intelligence. *Frontiers in Big Data and Frontiers in Artificial Intelligence, section Machine Learning and Artificial Intelligence, Special Issue on*

- Ethical Machine Learning and Artificial Intelligence*, 4(742589):1–3. editorial
- 977) Zhao, S., Xu, M., Huang, Q., and Schuller, B. W. (2021b). Introduction to the Special Issue on MMAC: Multimodal Affective Computing of Large-Scale Multimedia Data. *IEEE MultiMedia, Special Issue on MMAC: Multimodal Affective Computing of Large-Scale Multimedia Data*, 28(2):8–10. editorial (IF: 5.633 (2021))
- 978) Schuller, B. W., Lefter, I., Cambria, E., Kompatsiaris, I., and Stappen, L., editors (2021e). *MuSe'20: Proceedings of the 1. International on Multimodal Sentiment Analysis in Real-life Media Challenge and Workshop*, virtual event, USA. ACM, ACM. co-located with ACM Multimedia 2020, MM 2020
- 979) Zhang, Z., Metaxas, D. N., Lee, H., and Schuller, B. W. (2020e). Guest Editorial: Special Issue on Adversarial Learning in Computational Intelligence. *IEEE Transactions on Emerging Topics in Computational Intelligence, Special Issue on Adversarial Learning in Computational Intelligence*, 4(4):414–416. (IF: 4.989 (2018))
- 980) Schuller, B. (2019a). Editorial: Transactions on Affective Computing – On Novelty and Valence. *IEEE Transactions on Affective Computing*, 10(1):1–2. (IF: 7.512 (2019))
- 981) Schuller, B. W., Paletta, L., Robinson, P., Sabouret, N., and Yannakakis, G. N. (2019d). Intelligence in Serious Games. *IEEE Transactions on Games, Special Issue on Intelligence in Serious Games*, 11(4):306–310. (IF: 1.113 (2016))
- 982) Gao, W., Meng, H. M. L., Turk, M., Yu, K., Schuller, B., Song, Y., and Fussell, S. (2019). Welcome from the General and Program Chairs. In *Proceedings 21. ACM International Conference on Multimodal Interaction, ICMI*, Suzhou, China. ACM, ACM. editorial, (acceptance rate: 37%)
- 983) Gratch, J., Gunes, H., Schuller, B., Valstar, M., Bianchi-Berthouze, N., Epps, J., Kleinsmith, A., Picard, R., Joy Egede, M. M., and Zhang, Z. (2019). Welcome to ACII'19! In *Proceedings 8. biannual Conference on Affective Computing and Intelligent Interaction, ACII*, Cambridge, UK. IEEE, IEEE. editorial (acceptance rate: 40.8%)
- 984) Hain, T. and Schuller, B. (2019). Message from the Technical Program Chairs. In *Proceedings INTER-SPEECH 2019, 20. Annual Conference of the International Speech Communication Association*, Graz, Austria. ISCA, ISCA. editorial (acceptance rate: 49.3%)
- 985) Schuller, B. (2018a). Editorial: Transactions on Affective Computing – Good Reasons for Joy and Excitement. *IEEE Transactions on Affective Computing*, 9(1):1–2. (IF: 6.288 (2018))
- 986) Huang, D.-Y., Zhao, S., Schuller, B., Yao, H., Tao, J., Xu, M., Xie, L., Huang, Q., and Yang, J., editors (2018a). *Proceedings of the Joint Workshop of the 4. Workshop on Affective Social Multimedia Computing and first Multi-Modal Affective Computing of Large-Scale Multimedia Data*, Seoul, South Korea. ACM, ACM. co-located with ACM Multimedia 2018, MM 2018
- 987) Ringeval, F., Schuller, B., Valstar, M., Gratch, J., Cowie, R., and Pantic, M. (2018d). Introduction to the Special Section on Multimedia Computing and Applications of Socio-Affective Behaviors in the Wild. *ACM Transactions on Multimedia Computing, Communications and Applications*, 14(1s):1–2. editorial (IF: 2.250 (2016))
- 988) Ringeval, F., Schuller, B., Valstar, M., Cowie, R., and Pantic, M., editors (2018b). *Proceedings of the 2018 on Audio/Visual Emotion Challenge and Workshop*, Seoul, South Korea. ACM, ACM. co-located with ACM Multimedia 2018, MM 2018
- 989) Squartini, S., Schuller, B., Uncini, A., and Ting, C.-K. (2017). Editorial: Computational Intelligence for End-to-End Audio Processing. *IEEE Transactions on Emerging Topics in Computational Intelligence, Special Issue on Computational Intelligence for End-to-End Audio Processing*, 2(2):89–91. (IF: 3.826 (2016))
- 990) Veselkov, K. and Schuller, B. (2018). The age of data analytics: converting biomedical data into actionable insights. *Methods, Special Issue on Health Informatics and Translational Data Analytics*, pages 1–2. (IF: 3.998 (2017))
- 991) Schuller, B. (2017c). Editorial: Transactions on Affective Computing – Challenges and Chances. *IEEE Transactions on Affective Computing*, 8(1):1–2. (IF: 4.585 (2017))
- 992) Ringeval, F., Valstar, M., Gratch, J., Schuller, B., Cowie, R., and Pantic, M., editors (2017b). *Proceedings of the 7. International Workshop on Audio/Visual Emotion Challenge, AVEC'17, co-located with MM 2017*, Mountain View, CA. ACM, ACM
- 993) Soleymani, M., Schuller, B., and Chang, S.-F. (2017b). Guest Editorial: Multimodal Sentiment Analysis and Mining in the Wild. *Image and Vision Computing, Special Issue on Multimodal Sentiment Analysis and Mining in the Wild*, 65:1–2. (IF: 2.671 (2016))
- 994) Schuller, B. (2016d). Editorial: Transactions on Affective Computing – Changes and Continuance. *IEEE Transactions on Affective Computing*, 7(1):1–2. (IF: 6.288 (2018))
- 995) Cambria, E., Schuller, B., Xia, Y., and White, B. (2016b). New Avenues in Knowledge Bases for Natural Language Processing. *Knowledge-Based Systems, Special Issue on New Avenues in Knowledge Bases for Natural Language Processing*, C(108):1–4. editorial (IF: 4.396 (2017))
- 996) Devillers, L., Schuller, B., Mower Provost, E., Robinson, P., Mariani, J., and Delaborde, A., editors (2016). *Proceedings of the 1. International Workshop on ETHics In Corpus Collection, Annotation and Application (ETHI-CA<sup>2</sup> 2016)*, Portoroz, Slovenia. ELRA, ELRA. Satellite of the 10. Language Re-

- sources and Evaluation Conference (LREC 2016)
- 997) Sánchez-Rada, J. F. and Schuller, B., editors (2016). *Proceedings of the 6. International Workshop on Emotion and Sentiment Analysis (ESA 2016)*, Portoroz, Slovenia. ELRA, ELRA. Satellite of the 10. Language Resources and Evaluation Conference (LREC 2016)
- 998) Valstar, M., Gratch, J., Schuller, B., Ringeval, F., Cowie, R., and Pantic, M., editors (2016a). *Proceedings of the 6. International Workshop on Audio/Visual Emotion Challenge, AVEC'16, co-located with MM 2016*, Amsterdam, The Netherlands. ACM, ACM
- 999) Schuller, B., Steidl, S., Batliner, A., Vinciarelli, A., Burkhardt, F., and van Son, R. (2015e). Introduction to the Special Issue on Next Generation Computational Paralinguistics. *Computer Speech and Language, Special Issue on Next Generation Computational Paralinguistics*, 29(1):98–99. editorial (acceptance rate: 23 %, IF: 1.776 (2017))
- 1000) Hartmann, K., Siegert, I., Schuller, B., Morency, L.-P., Salah, A. A., and Böck, R., editors (2015b). *Proceedings of the Workshop on Emotion Representations and Modelling for Companion Systems, ERM4CT 2015*, Seattle, WA. ACM, ACM. held in conjunction with the 17. ACM International Conference on Multimodal Interaction, ICMI 2015
- 1001) Hartmann, K., Siegert, I., Schuller, B., Morency, L.-P., Salah, A. A., and Böck, R. (2015a). ERM4CT 2015 – Workshop on Emotion Representations and Modelling for Companion Systems. In Hartmann, K., Siegert, I., Schuller, B., Morency, L.-P., Salah, A. A., and Böck, R., editors, *Proceedings of the Workshop on Emotion Representations and Modelling for Companion Systems, ERM4CT 2015*, Seattle, WA. ACM, ACM. 2 pages, held in conjunction with the 17. ACM International Conference on Multimodal Interaction, ICMI 2015
- 1002) Paletta, L., Schuller, B. W., Robinson, P., and Sabouret, N. (2015b). IDGEI 2015: 3. international workshop on intelligent digital games for empowerment and inclusion. In *Proceedings of the 20. ACM International Conference on Intelligent User Interfaces, IUI 2015*, pages 450–452, Atlanta, GA. ACM, ACM
- 1003) Paletta, L., Schuller, B., Robinson, P., and Sabouret, N., editors (2015a). *IDGEI 2015 – 3. International Workshop on Intelligent Digital Games for Empowerment and Inclusion*, Atlanta, GA. ACM, ACM. held in conjunction with the 20. International Conference on Intelligent User Interfaces, IUI 2015
- 1004) Ringeval, F., Schuller, B., Valstar, M., Cowie, R., and Pantic, M., editors (2015e). *Proceedings of the 5. International Workshop on Audio/Visual Emotion Challenge, AVEC'15, co-located with MM 2015*, Brisbane, Australia. ACM, ACM
- 1005) Ringeval, F., Schuller, B., Valstar, M., Cowie, R., and Pantic, M. (2015c). AVEC 2015 Chairs' Welcome. In Ringeval, F., Schuller, B., Valstar, M., Cowie, R., and Pantic, M., editors, *Proceedings of the 5. International Workshop on Audio/Visual Emotion Challenge, AVEC'15, co-located with the 23. ACM International Conference on Multimedia, MM 2015*, page iii, Brisbane, Australia. ACM, ACM
- Schuller, B., Steidl, S., Batliner, A., Schiel, F., and Krajewski, J. (2014f). Introduction to the Special Issue on Broadening the View on Speaker Analysis. *Computer Speech and Language, Special Issue on Broadening the View on Speaker Analysis*, 28(2):343–345. editorial (acceptance rate: 23 %, IF: 1.812 (2013))
- Schuller, B., Buitelaar, P., Devillers, L., Pelachaud, C., Declerck, T., Batliner, A., Rosso, P., and Gaines, S., editors (2014a). *Proceedings of the 5. International Workshop on Emotion Social Signals, Sentiment & Linked Open Data (ES<sup>3</sup>LOD 2014)*, Reykjavik, Iceland. ELRA, ELRA. Satellite of the 9. Language Resources and Evaluation Conference (LREC 2014), (acceptance rate: 72 %)
- 1008) Cambria, E., Hussain, A., Schuller, B., and Howard, N. (2014). Guest Editorial Introduction Affective Neural Networks and Cognitive Learning Systems for Big Data Analysis. *Neural Networks, Special Issue on Affective Neural Networks and Cognitive Learning Systems for Big Data Analysis*, 58(10):1–3. editorial (IF: 7.197 (2017))
- 1009) Gunes, H., Schuller, B., Celiktutan, O., Sariyanidi, E., and Eyben, F., editors (2014b). *Proceedings of the Personality Mapping Challenge & Workshop (MAPTRAITS 2014)*, Istanbul, Turkey. ACM, ACM. Satellite of the 16. ACM International Conference on Multimodal Interaction (ICMI 2014)
- 1010) Gunes, H., Schuller, B., Celiktutan, O., Sariyanidi, E., and Eyben, F. (2014a). MAPTRAITS'14 Foreword. In *Proceedings of the Personality Mapping Challenge & Workshop (MAPTRAITS 2014)*, Satellite of the 16. ACM International Conference on Multimodal Interaction (ICMI 2014), page iii, Istanbul, Turkey. ACM, ACM
- 1011) Hartmann, K., Böck, R., Schuller, B., and Scherer, K. R., editors (2013c). *Proceedings of the 2. Workshop on Emotion representation and modelling in Human-Computer-Interaction-Systems, ERM4HCI 2014*, Istanbul, Turkey. ACM, ACM. held in conjunction with the 16. ACM International Conference on Multimodal Interaction, ICMI 2014
- 1012) Hartmann, K., Scherer, K. R., Schuller, B., and Böck, R. (2014b). Welcome to the ERM4HCI 2014! In Hartmann, K., Böck, R., Schuller, B., and Scherer, K., editors, *Proceedings of the 2. Workshop on Emotion representation and modelling in Human-Computer-Interaction-Systems, ERM4HCI 2014*, page iii, Istanbul, Turkey. ACM, ACM. held in conjunction with the 16. ACM International Conference on Multimodal Interaction, ICMI 2014
- 1013) Paletta, L., Schuller, B. W., Robinson, P., and Sabouret, N. (2014c). IDGEI 2014: 2. international workshop on intelligent digital games for empowerment and inclusion. In *Proceedings of the companion publication of the 19. international conference on In-*

- telligent User Interfaces, IUI Companion 2014*, pages 49–50, Haifa, Israel. ACM, ACM
- 1014) Paletta, L., Schuller, B., Robinson, P., and Sabouret, N., editors (2014a). *IDGEI 2014 – 2. International Workshop on Intelligent Digital Games for Empowerment and Inclusion*, Haifa, Israel. ACM, ACM. held in conjunction with the 19. International Conference on Intelligent User Interfaces, IUI 2014
- 1015) Paletta, L., Schuller, B., Robinson, P., and Sabouret, N., editors (2014b). *Proceedings of the 2. International Workshop on Digital Games for Empowerment and Inclusion, IDGEI 2014*, Haifa, Israel. ACM, ACM. held in conjunction with the 19. International Conference on Intelligent User Interfaces, IUI 2014
- 1016) Valstar, M., Schuller, B., Krajewski, J., Cowie, R., and Pantic, M. (2014a). AVEC 2014: the 4. International Audio/Visual Emotion Challenge and Workshop. In *Proceedings of the 22. ACM International Conference on Multimedia, MM 2014*, pages 1243–1244, Orlando, FL. ACM, ACM
- 1017) Salah, A. A., Cohn, J., Schuller, B., Aran, O., Morency, L.-P., and Cohen, P. R. (2014). ICMI 2014 Chairs' Welcome. In *Proceedings of the 16. ACM International Conference on Multimodal Interaction, ICMI*, pages iii–v, Istanbul, Turkey. ACM, ACM. editorial, (acceptance rate: 40%)
- 1018) Schuller, B., Paletta, L., and Sabouret, N. (2013d). Intelligent Digital Games for Empowerment and Inclusion – An Introduction. In Schuller, B., Paletta, L., and Sabouret, N., editors, *Proceedings 1. International Workshop on Intelligent Digital Games for Empowerment and Inclusion (IDGEI 2013) held in conjunction with the 8. Foundations of Digital Games 2013 (FDG)*, Chania, Greece. ACM, SASDG. 2 pages
- 1019) Schuller, B., Steidl, S., and Batliner, A. (2013f). Introduction to the Special Issue on Paralinguistics in Naturalistic Speech and Language. *Computer Speech and Language, Special Issue on Paralinguistics in Naturalistic Speech and Language*, 27(1):1–3. editorial (acceptance rate: 36%, IF: 1.812 (2013))
- 1020) Schuller, B., Valstar, M., Cowie, R., Krajewski, J., and Pantic, M., editors (2013j). *Proceedings of the 3. ACM international workshop on Audio/visual emotion challenge*, Barcelona, Spain. ACM, ACM. held in conjunction with the 21. ACM international conference on Multimedia, ACM MM 2013
- 1021) Cambria, E., Schuller, B., Liu, B., Wang, H., and Havasi, C. (2013a). Guest Editor's Introduction: Knowledge-based Approaches to Concept-Level Sentiment Analysis. *IEEE Intelligent Systems Magazine, Special Issue on Statistical Approaches to Concept-Level Sentiment Analysis*, 28(2):12–14. (IF: 2.596 (2017))
- 1022) Cambria, E., Schuller, B., Liu, B., Wang, H., and Havasi, C. (2013b). Guest Editor's Introduction: Statistical Approaches to Concept-Level Sentiment Analysis. *IEEE Intelligent Systems Magazine, Special Issue on Statistical Approaches to Concept-Level Sentiment Analysis*, 28(3):6–9. (IF: 2.596 (2017))
- 1023) Epps, J., Chen, F., Oviatt, S., Mase, K., Sears, A., Jokinen, K., and Schuller, B. (2013). ICMI 2013 Chairs' Welcome. In *Proceedings of the 15. ACM International Conference on Multimodal Interaction, ICMI*, pages 3–4, Sydney, Australia. ACM, ACM. editorial, (acceptance rate: 37%)
- 1024) Gunes, H. and Schuller, B. (2013b). Introduction to the Special Issue on Affect Analysis in Continuous Input. *Image and Vision Computing, Special Issue on Affect Analysis in Continuous Input*, 31(2):118–119. (IF: 2.671 (2016))
- 1025) Hartmann, K., Böck, R., Becker-Asano, C., Gratch, J., Schuller, B., and Scherer, K. R., editors (2013b). *Proceedings of the Workshop on Emotion representation and modelling in Human-Computer-Interaction-Systems, ERM4HCI 2013*, Sydney, Australia. ACM, ACM. held in conjunction with the 15. ACM International Conference on Multimodal Interaction, ICMI 2013
- 1026) Hartmann, K., Böck, R., Becker-Asano, C., Gratch, J., Schuller, B., and Scherer, K. R. (2013a). ERM4HCI 2013 -? The 1. Workshop on Emotion Representation and Modelling in Human-Computer-Interaction-Systems. In Hartmann, K., Böck, R., Becker-Asano, C., Gratch, J., Schuller, B., and Scherer, K. R., editors, *Proceedings of the Workshop on Emotion representation and modelling in Human-Computer-Interaction-Systems, ERM4HCI 2013*, Sydney, Australia. ACM, ACM. held in conjunction with the 15. ACM International Conference on Multimodal Interaction, ICMI 2013
- 1027) Müller, M., Narayanan, S. S., and Schuller, B., editors (2013). *Report from Dagstuhl Seminar 13451 – Computational Audio Analysis*, volume 3 of *Dagstuhl Reports*, Dagstuhl, Germany. Schloss Dagstuhl, Leibniz-Zentrum fuer Informatik, Dagstuhl Publishing. 28 pages
- 1028) Paletta, L., Itti, L., Schuller, B., and Fang, F., editors (2013). *Proceedings of the 6. International Symposium on Attention in Cognitive Systems 2013, ISACS 2013*, volume 1307.6170, Beijing, China. arxiv.org, Springer. held in conjunction with the 23. International Joint Conference on Artificial Intelligence, IJCAI 2013
- 1029) Schuller, B., Valstar, M., Cowie, R., and Pantic, M. (2012f). AVEC 2012: the continuous audio/visual emotion challenge – an introduction. In Morency, L.-P., Bohus, D., Aghajan, H. K., Cassell, J., Nijholt, A., and Epps, J., editors, *Proceedings of the 14. ACM International Conference on Multimodal Interaction, ICMI*, pages 361–362, Santa Monica, CA. ACM, ACM. (acceptance rate: 36%)
- 1030) Schuller, B., Douglas-Cowie, E., and Batliner, A. (2012a). Guest Editorial: Special Section on Naturalistic Affect Resources for System Building and Evaluation. *IEEE Transactions on Affective Computing, Special Issue on Naturalistic Affect Resources for System Building and Evaluation*, 3(1):3–4. (IF: 3.466

- (2013))
- 1031) Devillers, L., Schuller, B., Batliner, A., Rosso, P., Douglas-Cowie, E., Cowie, R., and Pelachaud, C., editors (2012). *Proceedings of the 4. International Workshop on EMOTION SENTIMENT & SOCIAL SIGNALS 2012 (ES? 2012) – Corpora for Research on Emotion, Sentiment & Social Signals*, Istanbul, Turkey. ELRA, ELRA. held in conjunction with LREC 2012
- 1032) Epps, J., Cowie, R., Narayanan, S., Schuller, B., and Tao, J. (2012). Editorial Emotion and Mental State Recognition from Speech. *EURASIP Journal on Advances in Signal Processing, Special Issue on Emotion and Mental State Recognition from Speech*, 2012(15). 2 pages (acceptance rate: 38 %, IF: 1.012 (2010))
- 1033) Squartini, S., Schuller, B., and Hussain, A. (2012). Cognitive and Emotional Information Processing for Human-Machine Interaction. *Cognitive Computation, Special Issue on Cognitive and Emotional Information Processing for Human-Machine Interaction*, 4(4):383–385. (IF: 4.287 (2018))
- 1034) Schuller, B., Steidl, S., and Batliner, A. (2011c). Introduction to the Special Issue on Sensing Emotion and Affect – Facing Realism in Speech Processing. *Speech Communication, Special Issue Sensing Emotion and Affect – Facing Realism in Speech Processing*, 53(9/10):1059–1061. (acceptance rate: 38 %, IF: 1.267 (2011))
- 1035) Schuller, B., Valstar, M., Cowie, R., and Pantic, M., editors (2011d). *Proceedings of the First International Audio/Visual Emotion Challenge and Workshop, AVEC 2011*, volume 6975, Part II of *Lecture Notes on Computer Science (LNCS)*, Memphis, TN. HUMAINE Association, Springer. held in conjunction with the International HUMAINE Association Conference on Affective Computing and Intelligent Interaction 2011, ACII 2011
- 1036) Devillers, L., Schuller, B., Cowie, R., Douglas-Cowie, E., and Batliner, A., editors (2010). *Proceedings of the 3. International Workshop on EMOTION: Corpora for Research on Emotion and Affect*, Valletta, Malta. ELRA, ELRA. Satellite of 7. International Conference on Language Resources and Evaluation (LREC 2010) (acceptance rate: 69 %)
- 1039) Pokorný, F. B., Schuller, B. W., Tomantschger, I., Zhang, D., Einspieler, C., and Marschik, P. B. (2016f). Intelligent pre-linguistic vocalisation analysis: a promising novel approach for the earlier identification of Rett syndrome. *Wiener Medizinische Wochenschrift*, 166(11–12):382–383. Rett Syndrome – RTT50.1 (IF: 0.56 (2015))
- 1040) Schuller, B. (2013a). Approaching Cross-Audio Computer Audition. *Dagstuhl Reports*, 3(11):22–22
- 1041) Metze, F., Anguera, X., Ewert, S., Gemmeke, J., Kolossa, D., Provost, E. M., Schuller, B., and Serrà, J. (2013). Learning of Units and Knowledge Representation. *Dagstuhl Reports*, 3(11):13–13
- 1042) Schuller, B., Fridenzon, S., Tal, S., Marchi, E., Batliner, A., and Golan, O. (2012b). Learning the Acoustics of Autism-Spectrum Emotional Expressions – A Children’s Game? *Neuropsychiatrie de l’Enfance et de l’Adolescence*, 60(5S):32. invited contribution
- 1043) Schuller, B. (2011b). Next Gen Music Analysis: Some Inspirations from Speech. *Dagstuhl Reports*, 1(1):93–93
- 1044) Ewert, S., Goto, M., Grosche, P., Kaiser, F., Yoshii, K., Kurth, F., Mauch, M., Müller, M., Peeters, G., Richard, G., and Schuller, B. (2011). Signal Models for and Fusion of Multimodal Information. *Dagstuhl Reports*, 1(1):97–97
- Abstracts in Conference and Challenge Proceedings (44)*
- 1045) Amiriparian, S., Christ, L., Kathan, A., Müller, N., König, A. S., and Schuller, B. (2022a). Speech-Based Spontaneous Humour Recognition Utilising Deep Spectrum and Acoustic Features. In *Proceedings 32. International Society of Humor Studies Conference, ISHS*, Bertinoro, Italy. ISHS, ISHS. 1 page, to appear
- 1046) Bauer, J., Gerczuk, M., Ebert, D. D., Schuller, B., and Berking, M. (2022). Paralinguistic Speech Characteristics in Major Depression: Machine-Learning-based Assessment of Symptom Severity and Remission Status From Voice. In *Proceedings 1. Deutscher Psychotherapie Kongress, DPK*, Berlin, Germany. 1 page, to appear
- 1047) Berking, M., Keinert, M., Böhme, S., Rupp, L. H., Capito, K., Eskofier, B., Schuller, B., Schindler-Gmelch, L., and Streit, H. (2022). Emotionsbasierte Varianten von Annäherungs-Vermeidungs-Modifikationstrainings als Maßnahme zur Reduktion erhöhten Stresserlebens: Ergebnisse einer Pilotstudie. In *Proceedings 1. Deutscher Psychotherapie Kongress, DPK*, Berlin, Germany. 1 page, to appear
- 1048) Kahveci, S., Houben, K., Aulbach, M., Rupp, L., Keinert, E. M., Boehme, S., Streit, H., Schuller, B., Eskofier, B., Berking, M., Zech, H., van Dijk, W., van Alebeek, H., Veling, H., Blechert, J., and Rinck, M. (2022). Measuring and modifying approach-avoidance behavior for better health outcomes: new
- Abstracts in Journals (8):*
- 1037) Law, E. L.-C., Folstad, A., Grudin, J., and Schuller, B. (2021). Executive Summary. *Dagstuhl Reports, Report from Dagstuhl Seminar 21381 – Conversational Agent as Trustworthy Autonomous System (TrustCA)*, 11(8):76–77. 39 pages
- 1038) Ozbay, A. G., Tzirakis, P., Rizos, G., Schuller, B., and Laizet, S. (2019). Convolutional Neural Networks for the Solution of the 2D Poisson Equation with Arbitrary Dirichlet Boundary Conditions, Mesh Sizes and Grid Spacings. *Bulletin of the American Physical Society – 72. Annual Meeting of the APS Division of Fluid Dynamics*, 64. 1 page

- experimental paradigms and frameworks. In *Proceedings Kongress der Deutschen Gesellschaft für Verhaltensmedizin (DGVM)*, Salzburg, Austria. DGVM, DGVM. 1 page, to appear
- 1049) Kathan, A., Amiriparian, S., Christ, L., Müller, N., König, A. S., and Schuller, B. W. (2022a). A Personalised Approach to Humour Recognition. In *Proceedings 32. International Society of Humor Studies Conference, ISHS*, Bertinoro, Italy. ISHS, ISHS. 1 page, to appear
- 1050) Keinert, M., Böhme, S., Schindler-Gmelch, L., Streit, H., Rupp, L. H., Eskofier, B., Schuller, B., and Berking, M. (2022). An Anger-based Approach-Avoidance Modification Training Targeting Dysfunctional Beliefs in Individuals with Elevated Stress – Results from a Randomized Controlled Pilot Study. In *Proceedings Kongress der Deutschen Gesellschaft für Verhaltensmedizin (DGVM)*, Salzburg, Austria. DGVM, DGVM. 1 page, to appear
- 1051) Rupp, L. H., Keinert, M., Böhme, S., Schindler-Gmelch, L., Streit, H., Schuller, B., Eskofier, B., and Berking, M. (2022a). Let It Go – A Randomized Controlled Pilot Study Exploring the Utility of Sadness in an Emotion-Based Approach-Avoidance Modification Training in the Context of Stress. In *Proceedings 1. Deutscher Psychotherapie Kongress, DPK*, Berlin, Germany. 1 page, to appear
- 1052) Rupp, L. H., Keinert, M., Böhme, S., Schindler-Gmelch, L., Streit, H., Schuller, B., Eskofier, B., and Berking, M. (2022b). Let It Go – A Randomized Controlled Pilot Study Exploring the Utility of Sadness in an Emotion-Based Approach-Avoidance Modification Training in the Context of Stress. In *Proceedings Kongress der Deutschen Gesellschaft für Verhaltensmedizin (DGVM)*, Salzburg, Austria. DGVM, DGVM. 1 page, to appear
- 1053) Streit, H., Keinert, M. E., Rupp, L. H., Schindler-Gmelch, L. M., Böhme, S., Eskofier, B., Schuller, B., and Berking, M. (2022). Disgust-based Approach-Avoidance Modification Training for Individuals Suffering from Elevated Stress: A Randomized Controlled Pilot Study. In *Proceedings Kongress der Deutschen Gesellschaft für Verhaltensmedizin (DGVM)*, Salzburg, Austria. DGVM, DGVM. 1 page, to appear
- 1054) Schuller, B. (2021b). The Treacherous Language of Alzheimer: Exposed by Agent AI. In *Proceedings 2. International Symposium on Artificial Intelligence for Prevention & Intervention in Dementia Care, held in conjunction with the 3. Krems Dementia Conference, AIDEM*, Krems, Austria. invited, 1 page, to appear
- 1055) Ristl, C., Baird, A., Schuller, B., and Nikitin, J. (2021). Assessing the Effects of Prosociality on Emotional State Using Daily-Life Audio Data. In *Proceedings Society for Ambulatory Assessment Conference, SAA*, Zurich, Switzerland. SAA. 1 page, to appear
- 1056) Pokorny, F., Bartl-Pokorny, K. D., Schuller, B., Marschik, P., Daniela, K., Nyström, P., Bölte, S., and Falck-Ytter, T. (2020b). Analyse prälinguistischer Vokalisationen von Kindern mit Autismus-Spektrum-Störung. In *Proceedings Wissenschaftliche Tagung Autismus-Spektrum, WTAS*, Göttingen, Germany. Wissenschaftliche Gesellschaft Autismus-Spektrum (WGAS) e. V., WGAS. 1 page
- 1057) Schuller, B. W., Schuller, D. M., Burkhardt, F., and Eyben, F. (2019e). Sprache als Biomarker für psychische Störungen: Werkzeuge zur aktuellen automatischen Analyse. In *Proceedings 11. Workshopkongress und 37. Symposium der Fachgruppe Klinische Psychologie und Psychotherapie der DGPs*, Erlangen/Germany. DGPs, DGPs. 1 page, invited for the Special Session on “E-mental health meets diagnostic: multidisziplinäre Ansätze zur Erfassung transdiagnostischer Faktoren”
- 1058) Stappen, L., Cummins, N., Messner, E.-M., Mallol-Ragolta, A., Baumeister, H., and Schuller, B. (2019a). Attention-based Neural Networks for the Detection of Objective Linguistic Markers in Depressive Spoken and Written Language. In *Proceedings 16. International Pragmatics Conference (IPrA)*, Hong Kong, China. International Pragmatics Association (IPrA), IPrA. 1 page, to appear
- 1059) Schuller, B. (2018b). Emotion Sensing at Your Wrist. In *2. Workshop on emotion awareness for pervasive computing with mobile and wearable devices (EmotionAware 2018) in conjunction with the 2018 IEEE International Conference on Pervasive Computing and Communications (PerCom 2018)*, Athens, Greece. IEEE, IEEE. 1 page, to appear
- 1060) Schuller, B. (2018f). State of Mind Sensing from Speech: State of Matters and What Matters. In *Speech, Music and Mind 2018 (SMM18): Detecting and Influencing Mental States with Audio, satellite workshop of Interspeech 2018*, Hyderabad, India. ISCA, ISCA. 1 page
- 1061) Baird, A., Amiriparian, S., Rynkiewicz, A., and Schuller, B. (2018a). Echolalic Autism Spectrum Condition Vocalisations: Brute-Force and Deep Spectrum Features. In *Proceedings International Paediatric Conference (IPC 2018)*, Rzeszów, Poland. Polish Society of Social Medicine and Public Health. 2 pages
- 1062) Shen, J., Ainger, E., Alcorn, A. M., Babović Dimitrijević, S., Baird, A., Chevalier, P., Cummins, N., Li, J. J., Marchi, E., Marinoiu, E., Olaru, V., Pantic, M., Pellicano, E., Petrović, S., Petrović, V., Schadenberg, B. R., Schuller, B., Skendzić, S., Sminchisescu, C., Tavassoli, T., Tran, L., Vlasenko, B., Zanfir, M., Evers, V., and De-Enigma, C. (2018). Autism Data Goes Big: A Publicly-Accessible Multi-Modal Database of Child Interactions for Behavioural and Machine Learning Research. In *Proceedings 17. Annual International Meeting For Autism Research (IMFAR 2018)*, pages 288–289, Rotterdam, The Netherlands. International Society for Autism Research (INSAR), INSAR
- 1063) Zhang, Z., Warlaumont, A., Schuller, B., Yetish, G.,



- Scaff, C., Colleran, H., Stieglitz, J., and Cristia, A. (2018g). Developing computational measures of vocal maturity from daylong recordings. In *16èmes Rencontres du Réseau Français de Phonologie (RFP 2018)*, Paris, France. RFP, RFP. 1 page
- 1064) Schuller, B. (2017e). Mental health monitoring in the pocket as a life changer? The AI view. In *Proceedings 9. Scientific Meeting of the International Society for Research on Internet Interventions, ISRII 2017*, Berlin, Germany. Society for Research on Internet Interventions (SRII), Elsevier. 1 page
- 1065) Rynkiewicz, A., Grabowski, K., Lassalle, A., Baron-Cohen, S., Schuller, B., Cummins, N., Baird, A., Hadjikhani, N., Podgorska-Bednarz, J., Pieniazek, A., Lucka, I., Mazur, A., and Tabarkiewicz, J. (2017). Humanoid Robots and Modern Technology in ADOS-2 and BOSCC to Support the Clinical Evaluation and Therapy of Patients with Autism Spectrum Condition (ASC) / Roboty humanoidalne oraz nowe technologie w ADOS-2 i BOSCC, wspierające diagnostykę kliniczną i terapie osób ze stanami ze spektrum autyzmu. In *Proceedings XXIX Ogólnopolska Konferencja Sekcji Naukowej Psychiatrii Dzieci i Młodzieży Polskiego Towarzystwa Psychiatrycznego*, Katowice, Poland. Polskie Towarzystwo Psychiatryczne, PTP. 3 pages
- 1066) Cummins, N., Hantke, S., Schnieder, S., Krajewski, J., and Schuller, B. (2017b). Classifying the Context and Emotion of Dog Barks: A Comparison of Acoustic Feature Representations. In *Proceedings Pre-Conference on Affective Computing 2017 SAS Annual Conference*, pages 14–15, Boston, MA. Society for Affective Science (SAS)
- 1067) Guo, J., Qian, K., Schuller, B., and Matsuoka, S. (2017a). GPU Processing Accelerates Training Autoencoders for Bird Sounds Data. In *Proceedings 2017 GPU Technology Conference (GTC)*, San Jose, CA. NVIDIA. 1 page
- 1068) Pokorny, F. B., Schuller, B. W., Bartl-Pokorny, K. D., Zhang, D., Einspieler, C., and Marschik, P. B. (2017b). In a bad mood? Automatic audio-based recognition of infant fussing and crying in video-taped vocalisations. In *Proceedings 2017 13th International Infant Cry Workshop*, Castel Noarna-Rovereto, Italy. 1 page
- 1069) Zhang, Y. and Schuller, B. (2017). Towards Human-like Holistic Machine Perception of Affective Social Behaviour. In *Proceedings 12th Workshop on Women in Machine Learning (WiML 2017), satellite event of NIPS 2017*, Long Beach, CA. NIPS, NIPS. 1 page
- 1070) Schuller, B. (2016e). Engage to Empower: Emotionally Intelligent Computer Games & Robots for Autistic Children. In Rynkiewicz, A. and Grabowski, K., editors, *Proceedings “The world innovations combining medicine, engineering and technology in autism diagnosis and therapy”*, pages 65–67, Rzeszów, Poland. SOLIS RADIUS
- 1071) Schuller, B. (2016f). Zaangażowanie aby wzmocnić kompetencje: emocjonalnie inteligentne roboty i gry komputerowe dla dzieci z autyzmem. In Rynkiewicz, A. and Grabowski, K., editors, *Proceedings “Swiatowe innowacje laczące medycynę, inżynierię oraz technologię w diagnozowaniu i terapii autyzmu”*, pages 62–64, Rzeszów, Poland. SOLIS RADIUS
- 1072) Pokorny, F. B., Schuller, B. W., Bartl-Pokorny, K. D., Einspieler, C., and Marschik, P. B. (2016c). Contributing to the early identification of Rett syndrome: Automated analysis of vocalisations from the pre-regression period. In *Proceedings Symposium of the Austrian Physiological Society 2016*, Graz, Austria. ÖPG, ÖPG. 1 page, Best Poster award 3. place
- 1073) Pokorny, F. B., Schuller, B. W., Peharz, R., Pernkopf, F., Bartl-Pokorny, K. D., Einspieler, C., and Marschik, P. B. (2016d). Contributing to the early identification of neurodevelopmental disorders: The retrospective analysis of pre-linguistic vocalisations in home video material. In *Proceedings IX Congreso Internacional y XIV Nacional de Psicología Clínica*, Santander, Spain. 1 page
- 1074) Pokorny, F. B., Schuller, B. W., Peharz, R., Pernkopf, F., Bartl-Pokorny, K. D., Einspieler, C., and Marschik, P. B. (2016e). Retrospektive Analyse frühkindlicher Lautäußerungen in „Home-Videos“: Ein signalanalytischer Ansatz zur Früherkennung von Entwicklungsstörungen. In *Proceedings 42. Österreichische Linguistiktagung, ÖLT*, Graz, Austria. 1 page
- 1075) Rudovic, O., Evers, V., Pantic, M., Schuller, B., and Petrović, S. (2016a). DE-ENIGMA Robots: Playfully Empowering Children with Autism. In *Proceedings XI Autism-Europe International Congress*, Edinburgh, Scotland. Autism Europe, The National Autistic Society. 1 page
- 1076) Rudovic, O., Lee, J., Schuller, B., and Picard, R. (2016b). Automated Measurement of Engagement of Children with Autism Spectrum Conditions during Human-Robot Interaction (HRI). In *Proceedings XI Autism-Europe International Congress*, Edinburgh, Scotland. Autism Europe, The National Autistic Society. 1 page
- 1077) Schuller, B. (2015f). Modelling User Affect and Sentiment in Intelligent User Interfaces: a Tutorial Overview. In *Proceedings of the 20. ACM International Conference on Intelligent User Interfaces, IUI 2015*, pages 443–446, Atlanta, GA. ACM, ACM
- 1078) Pokorny, F. B., Einspieler, C., Zhang, D., Kimmerle, A., Bartl-Pokorny, K. D., Schuller, B. W., and Bölte, S. (2014). The Voice of Autism: An Acoustic Analysis of Early Vocalisations. In *COST ESSEA Conference 2014 Book of Abstracts*, Toulouse, France. 1 page
- 1079) Schuller, B. (2013c). Interfaces Seeing and Hearing the User. In *Proceedings The Rank Prize Funds Symposium on Natural User Interfaces, Augmented Reality and Beyond: Challenges at the Intersection of HCI and Computer Vision*, Grasmere, UK. The Rank Prize Funds, The Rank Prize Funds. invited contribution, 1 page

- 1080) Ferroni, G., Marchi, E., Eyben, F., Squartini, S., and Schuller, B. (2013b). Onset Detection Exploiting Wavelet Transform with Bidirectional Long Short-Term Memory Neural Networks. In *Proceedings Annual Meeting of the MIREX 2013 community as part of the 14. International Conference on Music Information Retrieval*, Curitiba, Brazil. ISMIR, ISMIR. 3 pages
- 1081) Ferroni, G., Marchi, E., Eyben, F., Gabrielli, L., Squartini, S., and Schuller, B. (2013a). Onset Detection Exploiting Adaptive Linear Prediction Filtering in DWT Domain with Bidirectional Long Short-Term Memory Neural Networks. In *Proceedings Annual Meeting of the MIREX 2013 community as part of the 14. International Conference on Music Information Retrieval*, Curitiba, Brazil. ISMIR, ISMIR. 4 pages
- 1082) Gunes, H. and Schuller, B. (2012). Dimensional and Continuous Analysis of Emotions for Multimedia Applications: a Tutorial Overview. In *Proceedings of the 20. ACM International Conference on Multimedia, MM 2012*, Nara, Japan. ACM, ACM. 2 pages
- 1083) Schröder, M., Pammi, S., Gunes, H., Pantic, M., Valstar, M., Cowie, R., McKeown, G., Heylen, D., ter Maat, M., Eyben, F., Schuller, B., Wöllmer, M., Bevacqua, E., Pelachaud, C., and de Sevin, E. (2011). Come and Have an Emotional Workout with Sensitive Artificial Listeners! In *Proceedings 9. IEEE International Conference on Automatic Face & Gesture Recognition and Workshops, FG 2011*, pages 646–646, Santa Barbara, CA. IEEE, IEEE
- 1084) Eyben, F. and Schuller, B. (2010a). Music Classification with the Munich openSMILE Toolkit. In *Proceedings Annual Meeting of the MIREX 2010 community as part of the 11th International Conference on Music Information Retrieval*, Utrecht, The Netherlands. ISMIR, ISMIR. 2 pages (acceptance rate: 61%)
- 1085) Eyben, F. and Schuller, B. (2010b). Tempo Estimation from Tatum and Meter Vectors. In *Proceedings Annual Meeting of the MIREX 2010 community as part of the 11th International Conference on Music Information Retrieval*, Utrecht, The Netherlands. ISMIR, ISMIR. 1 page (acceptance rate: 61%)
- 1086) Böck, S., Eyben, F., and Schuller, B. (2010a). Beat Detection with Bidirectional Long Short-Term Memory Neural Networks. In *Proceedings Annual Meeting of the MIREX 2010 community as part of the 11th International Conference on Music Information Retrieval*, Utrecht, The Netherlands. ISMIR, ISMIR. 2 pages (acceptance rate: 61%)
- 1087) Böck, S., Eyben, F., and Schuller, B. (2010b). Onset Detection with Bidirectional Long Short-Term Memory Neural Networks. In *Proceedings Annual Meeting of the MIREX 2010 community as part of the 11th International Conference on Music Information Retrieval*, Utrecht, The Netherlands. ISMIR, ISMIR. 2 pages (acceptance rate: 61%)
- 1088) Böck, S., Eyben, F., and Schuller, B. (2010c). Tempo Detection with Bidirectional Long Short-Term Memory Neural Networks. In *Proceedings Annual Meeting of the MIREX 2010 community as part of the 11th International Conference on Music Information Retrieval*, Utrecht, The Netherlands. ISMIR, ISMIR. 3 pages (acceptance rate: 61%)
- 1089) Amiriparian, S., Julka, S., Cummins, N., and Schuller, B. (2018d). Deep Convolutional Recurrent Neural Networks for Rare Sound Event Detection. In *Proceedings 44. Jahrestagung für Akustik, DAGA 2018*, Munich, Germany. DEGA, DEGA. 4 pages, invited contribution, Structured Session Deep Learning for Audio
- 1090) Schmitt, M. and Schuller, B. (2018). Deep Recurrent Neural Networks for Emotion Recognition in Speech. In *Proceedings 44. Jahrestagung für Akustik, DAGA 2008*, Munich, Germany. DEGA, DEGA. 4 pages, invited contribution, Structured Session Deep Learning for Audio
- 1091) Schuller, B., Wöllmer, M., Eyben, F., Rigoll, G., and Arsić, D. (2011h). Semantic Speech Tagging: Towards Combined Analysis of Speaker Traits. In Brandenburg, K. and Sandler, M., editors, *Proceedings AES 42. International Conference*, pages 89–97, Ilmenau, Germany. AES, Audio Engineering Society. invited contribution
- 1092) Schuller, B., Can, S., and Feussner, H. (2009b). Robust Key-Word Spotting in Field Noise for Open-Microphone Surgeon-Robot Interaction. In *Proceedings 5. Russian-Bavarian Conference on Bio-Medical Engineering, RBC-BME 2009*, pages 121–123, Munich, Germany. invited contribution
- 1093) Schuller, B., Lehmann, A., Weninger, F., Eyben, F., and Rigoll, G. (2009e). Blind Enhancement of the Rhythmic and Harmonic Sections by NMF: Does it help? In *Proceedings International Conference on Acoustics including the 35. German Annual Conference on Acoustics, NAG/DAGA 2009*, pages 361–364, Rotterdam, The Netherlands. Acoustical Society of the Netherlands, DEGA, DEGA. invited contribution
- 1094) Schuller, B. (2008). Speaker, Noise, and Acoustic Space Adaptation for Emotion Recognition in the Automotive Environment. In *Proceedings 8. ITG Conference on Speech Communication*, volume 211 of *ITG-Fachbericht*, Aachen, Germany. ITG, VDE-Verlag. invited contribution, 4 pages
- 1095) Schuller, B., Wöllmer, M., Moosmayr, T., and Rigoll, G. (2008k). Robust Spelling and Digit Recognition in the Car: Switching Models and Their Like. In *Proceedings 34. Jahrestagung für Akustik, DAGA 2008*, pages 847–848, Dresden, Germany. DEGA, DEGA. invited contribution, Structured Session Sprachakustik im Kraftfahrzeug
- 1096) Schuller, B., Eyben, F., and Rigoll, G. (2008d). Beat-Synchronous Data-driven Automatic Chord Labeling. In *Proceedings 34. Jahrestagung für Akustik, DAGA*

*Invited Papers (32):*

- 2008, pages 555–556, Dresden, Germany. DEGA, DEGA. invited contribution, Structured Session Music Processing
- 1097) Schuller, B., Can, S., Scheuermann, C., Feussner, H., and Rigoll, G. (2008b). Robust Speech Recognition for Human-Robot Interaction in Minimal Invasive Surgery. In *Proceedings 4. Russian-Bavarian Conference on Bio-Medical Engineering, RBC-BME 2008*, pages 197–201, Zelenograd, Russia. invited contribution
- 1098) Schuller, B., Müller, R., Hörnler, B., Höthker, A., Konosu, H., and Rigoll, G. (2007c). Audiovisual Recognition of Spontaneous Interest within Conversations. In *Proceedings 9. ACM International Conference on Multimodal Interfaces, ICMI 2007*, pages 30–37, Nagoya, Japan. ACM, ACM. invited contribution, Special Session on Multimodal Analysis of Human Spontaneous Behaviour (acceptance rate: 56 %)
- 1099) Schuller, B., Rigoll, G., Grimm, M., Kroschel, K., Moosmayr, T., and Ruske, G. (2007d). Effects of In-Car Noise-Conditions on the Recognition of Emotion within Speech. In *Proceedings 33. Jahrestagung für Akustik, DAGA 2007*, pages 305–306, Stuttgart, Germany. DEGA, DEGA. invited contribution, Structured Session Sprachakustik im Kraftfahrzeug
- 1100) Schuller, B., Stadermann, J., and Rigoll, G. (2006f). Affect-Robust Speech Recognition by Dynamic Emotional Adaptation. In *Proceedings 3. International Conference on Speech Prosody, SP 2006*, Dresden, Germany. ISCA, ISCA. invited contribution, Special Session Prosody in Automatic Speech Recognition, 4 pages
- 1101) Schuller, B., Lang, M., and Rigoll, G. (2006d). Recognition of Spontaneous Emotions by Speech within Automotive Environment. In *Proceedings 32. Jahrestagung für Akustik, DAGA 2006*, pages 57–58, Braunschweig, Germany. DEGA, DEGA. invited contribution, Structured Session Sprachakustik im Kraftfahrzeug
- 1102) Schuller, B. and Rigoll, G. (2006a). Self-learning Acoustic Feature Generation and Selection for the Discrimination of Musical Signals. In *Proceedings 32. Jahrestagung für Akustik, DAGA 2006*, pages 285–286, Braunschweig, Germany. DEGA, DEGA. invited contribution, Structured Session Music Processing
- 1103) Schuller, B., Müller, R., Lang, M., and Rigoll, G. (2005c). Speaker Independent Emotion Recognition by Early Fusion of Acoustic and Linguistic Features within Ensembles. In *Proceedings Interspeech 2005, Eurospeech*, pages 805–809, Lisbon, Portugal. ISCA, ISCA. invited contribution, Special Session Emotional Speech Analysis and Synthesis: Towards a Multimodal Approach (acceptance rate: 61 %)
- 1104) Schuller, B., Lang, M., and Rigoll, G. (2005b). Robust Acoustic Speech Emotion Recognition by Ensembles of Classifiers. In *Proceedings 31. Jahrestagung für Akustik, DAGA 2005*, pages 329–330, Munich, Germany. DEGA, DEGA. invited contribution, Structured Session Automatische Spracherkennung in gestörter Umgebung
- 1105) Schuller, B., Rigoll, G., and Lang, M. (2005e). Matching Monophonic Audio Clips to Polyphonic Recordings. In *Proceedings 31. Jahrestagung für Akustik, DAGA 2005*, pages 299–300, Munich, Germany. DEGA, DEGA. invited contribution, Structured Session Music Processing
- 1106) Zhang, Z., Weninger, F., and Schuller, B. (2012). Towards Automatic Intoxication Detection from Speech in Real-Life Acoustic Environments. In Fingscheidt, T. and Kellermann, W., editors, *Proceedings of Speech Communication; 10. ITG Symposium*, pages 1–4, Braunschweig, Germany. ITG, IEEE. invited contribution
- 1107) Joder, C. and Schuller, B. (2012a). Exploring Non-negative Matrix Factorisation for Audio Classification: Application to Speaker Recognition. In Fingscheidt, T. and Kellermann, W., editors, *Proceedings of Speech Communication; 10. ITG Symposium*, pages 1–4, Braunschweig, Germany. ITG, IEEE. invited contribution
- 1108) Deng, J., Han, W., and Schuller, B. (2012). Confidence Measures for Speech Emotion Recognition: a Start. In Fingscheidt, T. and Kellermann, W., editors, *Proceedings of Speech Communication; 10. ITG Symposium*, pages 1–4, Braunschweig, Germany. ITG, IEEE. invited contribution
- 1109) Wöllmer, M., Kaiser, M., Eyben, F., Weninger, F., Schuller, B., and Rigoll, G. (2012b). Fully Automatic Audiovisual Emotion Recognition – Voice, Words, and the Face. In Fingscheidt, T. and Kellermann, W., editors, *Proceedings of Speech Communication; 10. ITG Symposium*, pages 1–4, Braunschweig, Germany. ITG, IEEE. invited contribution
- 1110) Weninger, F., Wöllmer, M., and Schuller, B. (2012h). Sparse, Hierarchical and Semi-Supervised Base Learning for Monaural Enhancement of Conversational Speech. In Fingscheidt, T. and Kellermann, W., editors, *Proceedings 10. ITG Conference on Speech Communication*, pages 1–4, Braunschweig, Germany. ITG, IEEE. invited contribution
- 1111) Han, W., Zhang, Z., Deng, J., Wöllmer, M., Weninger, F., and Schuller, B. (2012c). Towards Distributed Recognition of Emotion in Speech. In *Proceedings 5. International Symposium on Communications, Control, and Signal Processing, ISCCSP 2012*, pages 1–4, Rome, Italy. IEEE, IEEE. invited contribution, Special Session Interactive Behaviour Analysis
- 1112) Weninger, F. and Schuller, B. (2011b). Fusing Utterance-Level Classifiers for Robust Intoxication Recognition from Speech. In *Proceedings MMCogEmS 2011 Workshop (Inferring Cognitive and Emotional States from Multimodal Measures), held in conjunction with the 13th International Conference on Multimodal Interaction, ICMI 2011*, Alicante, Spain. ACM, ACM. invited contribution, 2 pages (acceptance rate: 39 %)

- 1113) Weninger, F., Schuller, B., Liem, C., Kurth, F., and Hanjalic, A. (2012e). Music Information Retrieval: An Inspirational Guide to Transfer from Related Disciplines. In Müller, M. and Goto, M., editors, *Multimodal Music Processing*, volume Seminar 11041 of *Dagstuhl Follow-Ups*, pages 195–215, Schloss Dagstuhl, Germany. invited contribution
- 1114) Wöllmer, M., Klebert, N., and Schuller, B. (2010e). Switching Linear Dynamic Models for Recognition of Emotionally Colored and Noisy Speech. In *Proceedings 9. ITG Conference on Speech Communication*, volume 225 of *ITG-Fachbericht*, Bochum, Germany. ITG, VDE-Verlag. invited contribution, Special Session Bayesian Methods for Speech Enhancement and Recognition, 4 pages
- 1115) Devillers, L. and Schuller, B. (2010). The Essential Role of Language Resources for the Future of Affective Computing Systems: A Recognition Perspective. In *Proceedings 2. European Language Resources and Technologies Forum: Language Resources of the future – the future of Language Resources*, Barcelona, Spain. FLReNet. invited contribution, 2 pages
- 1116) Steidl, S., Schuller, B., Seppi, D., and Batliner, A. (2009). The Hinterland of Emotions: Facing the Open-Microphone Challenge. In *Proceedings 3. International Conference on Affective Computing and Intelligent Interaction and Workshops, ACII 2009*, volume I, pages 690–697, Amsterdam, The Netherlands. HUMAINE Association, IEEE. invited contribution, Special Session Recognition of Non-Prototypical Emotion from Speech – The final frontier?
- 1117) Baggia, P., Burkhardt, F., Pelachaud, C., Peter, C., Schuller, B., Wilson, I., and Zovato, E. (2008). Elements of an EmotionML 1.0. Technical report, W3C
- 1118) Batliner, A., Seppi, D., Schuller, B., Steidl, S., Vogt, T., Wagner, J., Devillers, L., Vidrascu, L., Amir, N., and Aharonson, V. (2008b). Patterns, Prototypes, Performance. In Hornegger, J., Höller, K., Ritt, P., Borsdorf, A., and Niedermeier, H.-P., editors, *Pattern Recognition in Medical and Health Engineering, Proceedings HSS-Cooperation Seminar Ingenieurwissenschaftliche Beiträge für ein leistungsfähigeres Gesundheitssystem*, pages 85–86, Wildbad Kreuth, Germany. invited contribution
- 1119) Grimm, M., Kroschel, K., Schuller, B., Rigoll, G., and Moosmayr, T. (2007b). Acoustic Emotion Recognition in Car Environment Using a 3D Emotion Space Approach. In *Proceedings 33. Jahrestagung für Akustik, DAGA 2007*, pages 313–314, Stuttgart, Germany. DEGA, DEGA. invited contribution, Structured Session Sprachakustik im Kraftfahrzeug
- 1120) Rigoll, G., Müller, R., and Schuller, B. (2005). Speech Emotion Recognition Exploiting Acoustic and Linguistic Information Sources. In Kokkinakis, G., editor, *Proceedings 10. International Conference Speech and Computer, SPECOM 2005*, volume 1, pages 61–67, Patras, Greece. invited contribution
- Forewords (7):*
- 1121) Schuller, B. (2021a). Preface. In Shao, X., Qian, K., Zhou, L., Wang, X., and Zhao, Z., editors, *Proceedings of the 8. China Conference on Sound and Music Technology, Selected Papers from CSMT*, volume 761 of *Lecture Notes in Electrical Engineering*, pages V–VI, Taiyuan, China. Shanghai Computer Music Association, Springer
- 1122) Schuller, B. (2020). Computers Hearing Children’s Cries and Pathologies – A Foreword. In Neustein, A. and Patil, H. A., editors, *Acoustic Analysis of Pathologies From Infancy to Young Adulthood*, volume 7 of *De Gruyter Series in Speech Technology and Text Analytics in Medicine and Healthcare*, pages VII–X. DeGruyter
- 1123) Tao, J., Schuller, B., and Campbell, N. (2018). ACII Asia 2018 – AAAC Asian Conference on Affective Computing and Intelligent Interaction in Beijing. In *Proceedings first Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia 2018)*, Beijing, China. AAAC, IEEE. 1 page
- 1124) Schuller, B. (2015a). A decade of encouraging speech processing “outside of the box” – a Foreword. In Esposito, A., Faundez-Zanuy, M., Esposito, A. M., Cordasco, G., Drugman, T., Solé-Casals, J., and Morabito, C. F., editors, *Recent Advances in Nonlinear Speech Processing – 7. International Conference, NOLISP 2015, Vietri sul Mare, Italy, May 18–19, 2015, Proceedings*, volume 48, Smart Innovation, Systems and Technologies of *Smart Innovation Systems and Technologies*, pages 3–4. Springer. invited
- 1125) Cowie, R., Ji, Q., Tao, J., Gratch, J., and Schuller, B. (2015). Foreword ACII 2015 – Affective Computing and Intelligent Interaction at Xi’an. In *Proceedings 6. biannual Conference on Affective Computing and Intelligent Interaction (ACII 2015)*, Xi’an, China. AAAC, IEEE. 2 pages
- 1126) Schuller, B. (2015e). Foreword. In Cambria, E. and Hussain, A., editors, *Sentic Computing – A Common-Sense-Based Framework for Concept-Level Sentiment Analysis*, pages v–vi. Springer, 2 edition. invited foreword
- 1127) Schuller, B. (2015i). Supervisor’s Foreword. In Eyben, F., editor, *Real-time Speech and Music Classification by Large Audio Feature Space Extraction*. Springer. invited foreword, 2 pages
- Reviewed Technical Newsletter Contributions (5):*
- 1128) Eyben, F. and Schuller, B. (2014). openSMILE:) The Munich Open-Source Large-Scale Multimedia Feature Extractor. *ACM SIGMM Records*, 6(4)
- 1129) Schuller, B., Steidl, S., and Batliner, A. (2013g). The INTERSPEECH 2013 Computational Paralinguistics Challenge – A Brief Review. *Speech and Language Processing Technical Committee (SLTC) Newsletter*
- 1130) Schuller, B., Steidl, S., Batliner, A., Schiel, F., and Krajewski, J. (2012e). The INTERSPEECH 2011

- Speaker State Challenge – A review. *Speech and Language Processing Technical Committee (SLTC) Newsletter*
- 1131) Schuller, B. and Devillers, L. (2010a). Emotion 2010 – On Recent Corpora for Research on Emotion and Affect. *ELRA Newsletter, LREC 2010 Special Issue*, 15(1–2):18–18
- 1132) Schuller, B., Steidl, S., Batliner, A., and Jurcicek, F. (2009i). The INTERSPEECH 2009 Emotion Challenge – Results and Lessons Learnt. *Speech and Language Processing Technical Committee (SLTC) Newsletter*
- Technical Reports and Preprints (159):*
- 1133) Schuller, B. W., Amiriparian, S., Batliner, A., Gebhard, A., Gerczuk, M., Karas, V., Kathan, A., Seizer, L., and Löchner, J. (2023). Computational Charisma – A Brick by Brick Blueprint for Building Charismatic Artificial Intelligence. *arxiv.org*, (2301.00142). 24 pages
- 1134) Schuller, B. and Schuller, D. (2022a). Audiovisual Affect Assessment and Autonomous Automobiles: Applications. *arxiv.org*, (2203.07482). 8 pages, originally invited for Machines with Emotion, Workshop in conjunction with IROS, MWE 2019, IEEE, Macau, China
- 1135) Schuller, B. W., Akman, A., Chang, Y., Coppock, H., Gebhard, A., Kathan, A., Rituerto-González, E., Triantafyllopoulos, A., and Pokorny, F. B. (2022b). Climate Change & Computer Audition: A Call to Action and Overview on Audio Intelligence to Help Save the Planet. *arxiv.org*, (2203.06064). 28 pages
- 1136) Schuller, B. W., Batliner, A., Amiriparian, S., Bergler, C., Gerczuk, M., Holz, N., Larrouy-Maestri, P., Bayerl, S. P., Riedhammer, K., Mallol-Ragolta, A., Pateraki, M., Coppock, H., Kiskin, I., Sinka, M., and Roberts, S. (2022d). The ACM Multimedia 2022 Computational Paralinguistics Challenge: Vocalisations, Stuttering, Activity, & Mosquitos. *arxiv.org*, (2205.06799). 5 pages
- 1137) Anton, J., Coppock, H., Shukla, P., and Schuller, B. W. (2022). Audio Barlow Twins: Self-Supervised Audio Representation Learning. *arxiv.org*, (2209.14345). 15 pages
- 1138) Baird, A., Tzirakis, P., Brooks, J. A., Gregory, C. B., Schuller, B., Batliner, A., Keltner, D., and Cowen, A. (2022b). The ACHI 2022 Affective Vocal Bursts Workshop & Competition: Understanding a critically understudied modality of emotional expression. *arxiv.org*, (2207.03572). 5 pages
- 1139) Baird, A., Tzirakis, P., Gidel, G., Jiralerspong, M., Muller, E. B., Mathewson, K., Schuller, B., Cambria, E., Keltner, D., and Cowen, A. (2022d). The ICML 2022 Expressive Vocalizations Workshop and Competition: Recognizing, Generating, and Personalizing Vocal Bursts. *arxiv.org*, (2205.01780). 9 pages
- 1140) Budd, J., Baker, K., Karoune, E., Coppock, H., Patel, S., Cañadas, A. T., Titcomb, A., Payne, R., Hurley, D., Egglestone, S., Butler, L., Mellor, J., Nicholson, G., Kiskin, I., Koutra, V., Jersakova, R., McKendry, R. A., Diggle, P., Richardson, S., Schuller, B. W., Gilmour, S., Pigoli, D., Roberts, S., Packham, J., Thornley, T., and Holmes, C. (2022). A large-scale and PCR-referenced vocal audio dataset for COVID-19. *arxiv.org*, (2212.07738). 36 pages
- 1141) Calvo, R., Peters, D., Cook, D., Rizos, G., Schuller, B., Wong, E., Kallis, C., and Quint, J. (2022). Assessing the design of Conversational Agents for Asthma support: Protocol for an Observational Pilot Study. *JMIR Preprints*. 11 pages
- 1142) Chang, Y., Ren, Z., Nguyen, T. T., Nejdil, W., and Schuller, B. W. (2022d). Example-based Explanations with Adversarial Attacks for Respiratory Sound Analysis. *arxiv.org*, (2203.16141). 5 pages
- 1143) Chang, Y., Ren, Z., Nguyen, T. T., Qian, K., and Schuller, B. W. (2022e). Knowledge Transfer For On-Device Speech Emotion Recognition with Neural Structured Learning. *arxiv.org*, (2210.14977). 5 pages
- 1144) Chang, Y., Laridi, S., Ren, Z., Palmer, G., Schuller, B. W., and Fisichella, M. (2022b). Robust Federated Learning Against Adversarial Attacks for Speech Emotion Recognition. *arxiv.org*, (2203.04696). 11 pages
- 1145) Christ, L., Amiriparian, S., Milling, M., Aslan, I., and Schuller, B. W. (2022d). Automatic Emotion Modelling in Written Stories. *arxiv.org*, (2212.11382). 12 pages
- 1146) Christ, L., Amiriparian, S., Kathan, A., Müller, N., König, A., and Schuller, B. W. (2022c). Multimodal Prediction of Spontaneous Humour: A Novel Dataset and First Results. *arxiv.org*, (2209.14272). 15 pages
- 1147) Christ, L., Amiriparian, S., Baird, A., Tzirakis, P., Kathan, A., Müller, N., Stappen, L., Meßner, E.-M., König, A., Cowen, A., Cambria, E., and Schuller, B. W. (2022b). The MuSe 2022 Multimodal Sentiment Analysis Challenge: Humor, Emotional Reactions, and Stress. *arxiv.org*, (2207.05691). 10 pages
- 1148) Coppock, H., Nicholson, G., Kiskin, I., Koutra, V., Baker, K., Budd, J., Payne, R., Karoune, E., Hurley, D., Titcomb, A., Egglestone, S., Cañadas, A. T., Butler, L., Jersakova, R., Mellor, J., Patel, S., Thornley, T., Diggle, P., Richardson, S., Packham, J., Schuller, B. W., Pigoli, D., Gilmour, S., Roberts, S., and Holmes, C. (2022b). Audio-based AI classifiers show no evidence of improved COVID-19 screening over simple symptoms checkers. *arxiv.org*, (2212.08570). 36 pages
- 1149) Coppock, H., Akman, A., Bergler, C., Gerczuk, M., Brown, C., Chauhan, J., Grammenos, A., Hasthanasombat, A., Spathis, D., Xia, T., Cicuta, P., Han, J., Amiriparian, S., Baird, A., Stappen, L., Ottl, S., Tzirakis, P., Batliner, A., Mascolo, C., and Schuller, B. W. (2022a). A Summary of the ComParE COVID-19 Challenges. *arxiv.org*, (2202.08981). 18 pages
- 1150) Cummins, N., Dineley, J., Conde, P., Matcham, F., Siddi, S., Lamers, F., Carr, E., Lavelle, G., Leightley,

- D., White, K., Oetzmann, C., Campbell, E., Simblett, S., Bruce, S., Haro, J., Penninx, B., Ranjan, Y., Rashid, Z., Stewart, C., Folarin, A., Bailón, R., Schuller, B., Wykes, T., Vairavan, S., Dobson, R., Narayan, V., and Hotopf, M. (2022). Multilingual markers of depression in remotely collected speech samples. *ResearchSquare*. 17 pages
- 1151) Godwin, T., Rizos, G., Baird, A., Al Futaisi, N. D., Brisse, V., and Schuller, B. W. (2022). Evaluating Deep Music Generation Methods Using Data Augmentation. *arxiv.org*, (2201.00052). 6 pages
- 1152) He, X., Triantafyllopoulos, A., Kathan, A., Milling, M., Yan, T., Rajamani, S. T., Küster, L., Harrer, M., Heber, E., Grossmann, I., Ebert, D. D., and Schuller, B. (2022b). Depression Diagnosis and Forecast based on Mobile Phone Sensor Data. *arxiv.org*, (2205.07861). 5 pages
- 1153) Jing, X., Liu, S., Parada-Cabaleiro, E., Triantafyllopoulos, A., Song, M., Yang, Z., and Schuller, B. W. (2022b). A Temporal-oriented Broadcast ResNet for COVID-19 Detection. *arxiv.org*, (2203.17012). 5 pages
- 1154) Jing, X., Song, M., Triantafyllopoulos, A., Yang, Z., and Schuller, B. W. (2022c). Redundancy Reduction Twins Network: A Training framework for Multi-output Emotion Regression. *arxiv.org*, (2206.09142). 5 pages, Proceedings of the ICML Expressive Vocalizations Workshop and Competition (ExVo 2022) held in conjunction with the 39. International Conference on Machine Learning (ICML 2022), Baltimore, MD
- 1155) Karas, V., Tellamekala, M. K., Mallol-Ragolta, A., Valstar, M., and Schuller, B. W. (2022b). Continuous-Time Audiovisual Fusion with Recurrence vs. Attention for In-The-Wild Affect Recognition. *arxiv.org*, (2203.13285). 7 pages
- 1156) Karas, V., Triantafyllopoulos, A., Song, M., and Schuller, B. W. (2022c). Self-Supervised Attention Networks and Uncertainty Loss Weighting for Multi-Task Emotion Recognition on Vocal Bursts. *arxiv.org*, (2209.07384). 5 pages, Proceedings The 2022 ACII Affective Vocal Bursts (A-VB) Workshop & Challenge at the annual Conference on Affective Computing and Intelligent Interaction, ACII
- 1157) Kathan, A., Triantafyllopoulos, A., He, X., Milling, M., Yan, T., Rajamani, S. T., Küster, L., Harrer, M., Heber, E., Grossmann, I., Ebert, D. D., and Schuller, B. W. (2022f). Journaling Data for Daily PHQ-2 Depression Prediction and Forecasting. *arxiv.org*, (2205.03391). 5 pages
- 1158) Latif, S., Ali, H. S., Usama, M., Rana, R., Schuller, B., and Qadir, J. (2022a). AI-Based Emotion Recognition: Promise, Peril, and Prescriptions for Prosocial Path. *arxiv.org*, (2211.07290). 13 pages
- 1159) Latif, S., Rana, R., Khalifa, S., Jurdak, R., and Schuller, B. W. (2022f). Multitask Learning from Augmented Auxiliary Data for Improving Speech Emotion Recognition. *arxiv.org*, (2207.05298). 12 pages
- 1160) Latif, S., Rana, R., Khalifa, S., Jurdak, R., and Schuller, B. (2022d). Self Supervised Adversarial Domain Adaptation for Cross-Corpus and Cross-Language Speech Emotion Recognition. *arxiv.org*, (2204.08625). 13 pages
- 1161) Liu, R., Sisman, B., Schuller, B., Gao, G., and Li, H. (2022b). Accurate Emotion Strength Assessment for Seen and Unseen Speech Based on Data-Driven Deep Learning. *arxiv.org*, (2206.07229). 5 pages
- 1162) Liu, S., Mallol-Ragolta, A., Parada-Cabeleiro, E., Qian, K., Jing, X., Kathan, A., Hu, B., and Schuller, B. W. (2022e). Audio Self-supervised Learning: A Survey. *arxiv.org*, (2203.01205). 24 pages
- 1163) Milling, M., Bartl-Pokorny, K. D., and Schuller, B. W. (2022c). Investigating Automatic Speech Emotion Recognition for Children with Autism Spectrum Disorder in interactive intervention sessions with the social robot Kaspar. *medRxiv*. 18 pages
- 1164) Mira, R., Haliassos, A., Petridis, S., Schuller, B. W., and Pantic, M. (2022a). SVTS: Scalable Video-to-Speech Synthesis. *arxiv.org*, (2205.02058). 5 pages
- 1165) Mohamed, M. M. and Schuller, B. W. (2022). Normalise for Fairness: A Simple Normalisation Technique for Fairness in Regression Machine Learning Problems. *arxiv.org*, (2202.00993). 12 pages
- 1166) Pigoli, D., Baker, K., Budd, J., Butler, L., Coppock, H., Egglestone, S., Gilmour, S. G., Holmes, C., Hurley, D., Jersakova, R., Kiskin, I., Koutra, V., Mellor, J., Nicholson, G., Packham, J., Patel, S., Payne, R., Roberts, S. J., Schuller, B. W., Tendo-Cañadas, A., Thornley, T., and Titcomb, A. (2022). Statistical Design and Analysis for Robust Machine Learning: A Case Study from COVID-19. *arxiv.org*, (2212.08571). 20 pages
- 1167) Ren, Z., Nguyen, T. T., Chang, Y., and Schuller, B. W. (2022d). Fast Yet Effective Speech Emotion Recognition with Self-distillation. *arxiv.org*, (2210.14636). 5 pages
- 1168) Ren, Z., Chang, Y., Bartl-Pokorny, K. D., Pokorny, F. B., and Schuller, B. W. (2022b). The Acoustic Dissection of Cough: Diving into Machine Listening-based COVID-19 Analysis and Detection. *medRxiv*. 29 pages
- 1169) Rizos, G., Lawson, J., Mitchell, S., Shah, P., Wen, X., Banks-Leite, C., Ewers, R., and Schuller, B. W. (2022). Propagating Variational Model Uncertainty for Bioacoustic Call Label Smoothing. *arxiv.org*, (2210.10526). 30 pages
- 1170) Song, M., Yang, Z., Triantafyllopoulos, A., Jing, X., Karas, V., Jiangjian, X., Zhang, Z., Yoshiharu, Y., and Schuller, B. W. (2022b). Dynamic Restrained Uncertainty Weighting Loss for Multitask Learning of Vocal Expression. *arxiv.org*, (2206.11049). 5 pages, Proceedings of the ICML Expressive Vocalizations Workshop and Competition (ExVo 2022) held in conjunction with the 39. International Conference on Machine Learning (ICML 2022), Baltimore, MD
- 1171) Stappen, L., Milling, M., Munst, V., Hoffmann, K.,

- and Schuller, B. W. (2022b). Predicting Sex and Stroke Success – Computer-aided Player Grunt Analysis in Tennis Matches. *arxiv.org*, (2202.09102). 6 pages
- 1172) Tellamekala, M. K., Sümer, O., Schuller, B. W., André, E., Giesbrecht, T., and Valstar, M. (2022b). Are 3D Face Shapes Expressive Enough for Recognising Continuous Emotions and Action Unit Intensities? *arxiv.org*, (2207.01113). 16 pages
- 1173) Tellamekala, M. K., Amiriparian, S., Schuller, B. W., André, E., Giesbrecht, T., and Valstar, M. (2022a). COLD Fusion: Calibrated and Ordinal Latent Distribution Fusion for Uncertainty-Aware Multimodal Emotion Recognition. *arxiv.org*, (2206.05833). 16 pages
- 1174) Triantafyllopoulos, A., Schuller, B. W., Iymen, G., Sezgin, M., He, X., Yang, Z., Tzirakis, P., Liu, S., Mertes, S., André, E., Fu, R., and Tao, J. (2022e). An Overview of Affective Speech Synthesis and Conversion in the Deep Learning Era. *arxiv.org*, (2210.03538). 24 pages
- 1175) Triantafyllopoulos, A., Semertzidou, A., Song, M., Pokorný, F. B., and Schuller, B. W. (2022f). COVYT: Introducing the Coronavirus YouTube and TikTok speech dataset featuring the same speakers with and without infection. *arxiv.org*, (2206.11045). 12 pages
- 1176) Triantafyllopoulos, A., Fendler, M., Batliner, A., Gerczuk, M., Amiriparian, S., Berghaus, T. M., and Schuller, B. W. (2022b). Distinguishing between pre- and post-treatment in the speech of patients with chronic obstructive pulmonary disease. *arxiv.org*, (2207.12784). 5 pages
- 1177) Triantafyllopoulos, A., Song, M., Yang, Z., Jing, X., and Schuller, B. W. (2022g). Exploring speaker enrolment for few-shot personalisation in emotional vocalisation prediction. *arxiv.org*, (2206.06680). 5 pages, Proceedings of the ICML Expressive Vocalizations Workshop and Competition (ExVo 2022) held in conjunction with the 39. International Conference on Machine Learning (ICML 2022), Baltimore, MD
- 1178) Triantafyllopoulos, A., Otth, S., Gebhard, A., Rituerto-Gonzalez, E., Jaumann, M., Hüttner, S., Dieter, V., Schneeweiss, P., Krauss, I., Gerczuk, M., Amiriparian, S., and Schuller, B. (2022d). Fatigue Prediction in Outdoor Running Conditions using Audio Data. *arxiv.org*, (2205.04343). 5 pages
- 1179) Triantafyllopoulos, A., Zänkert, S., Baird, A., Konzok, J., Kudielka, B. M., and Schuller, B. W. (2022k). Insights on Modelling Physiological, Appraisal, and Affective Indicators of Stress using Audio Features. *arxiv.org*, (2205.04328). 5 pages
- 1180) Triantafyllopoulos, A., Wagner, J., Wierstorf, H., Schmitt, M., Reichel, U., Eyben, F., Burkhardt, F., and Schuller, B. W. (2022i). Probing Speech Emotion Recognition Transformers for Linguistic Knowledge. *arxiv.org*, (2204.00400). 5 pages
- 1181) Turian, J., Shier, J., Khan, H. R., Raj, B., Schuller, B. W., Steinmetz, C. J., Malloy, C., Tzanetakis, G., Velarde, G., McNally, K., Henry, M., Pinto, N., Noufi, C., Clough, C., Herremans, D., Fonseca, E., Engel, J., Salamon, J., Esling, P., Manocha, P., Watanabe, S., Jin, Z., and Bisk, Y. (2022b). HEAR 2021: Holistic Evaluation of Audio Representations. *arxiv.org*, (2203.03022). 29 pages
- 1182) Wagner, J., Triantafyllopoulos, A., Wierstorf, H., Schmitt, M., Eyben, F., Schuller, B. W., and Burkhardt, F. (2022). Dawn of the transformer era in speech emotion recognition: closing the valence gap. *arxiv.org*, (2203.07378). 25 pages
- 1183) Woszczyk, D., Hedlikova, A., Akman, A., Demetriou, S., and Schuller, B. W. (2022b). Data Augmentation for Dementia Detection in Spoken Language. *arxiv.org*, (2206.12879). 5 pages
- 1184) Yan, T., Meng, H., Parada-Cabaleiro, E., Tao, J., and Schuller, B. (2022b). A Residual Multi-Scale Convolutional Transformer Network with Chunk-level Log-Mel Spectrograms for Speech Emotion Recognition. *techrxiv.org*, (21309600). 17 pages
- 1185) Yang, Z., Jing, X., Triantafyllopoulos, A., Song, M., Aslan, I., and Schuller, B. W. (2022b). An Overview & Analysis of Sequence-to-Sequence Emotional Voice Conversion. *arxiv.org*, (2203.15873). 5 pages
- 1186) Zhou, K., Sisman, B., Rana, R., Schuller, B. W., and Li, H. (2022b). Emotion Intensity and its Control for Emotional Voice Conversion. *arxiv.org*, (2201.03967). 18 pages
- 1187) Zhou, K., Sisman, B., Rana, R., Schuller, B. W., and Li, H. (2022d). Speech Synthesis with Mixed Emotions. *arxiv.org*, (2208.05890). 15 pages
- 1188) Schuller, B. W., Batliner, A., Bergler, C., Mascolo, C., Han, J., Lefter, I., Kaya, H., Amiriparian, S., Baird, A., Stappen, L., Otth, S., Gerczuk, M., Tzirakis, P., Brown, C., Chauhan, J., Grammenos, A., Hasthanasombat, A., Spathis, D., Xia, T., Cicuta, P., Leon J. M. R., Zwerts, J., Treep, J., and Kaandorp, C. (2021d). The INTERSPEECH 2021 Computational Paralinguistics Challenge: COVID-19 Cough, COVID-19 Speech, Escalation & Primates. *arxiv.org*, (2102.13468). 5 pages
- 1189) Akman, A., Coppock, H., Gaskell, A., Tzirakis, P., Jones, L., and Schuller, B. W. (2021). Evaluating the COVID-19 Identification ResNet (CIdER) on the INTERSPEECH COVID-19 from Audio Challenges. *arxiv.org*, (2107.14549). 5 pages
- 1190) Amiriparian, S., Hübner, T., Gerczuk, M., Otth, S., and Schuller, B. W. (2021a). DeepSpectrumLite: A Power-Efficient Transfer Learning Framework for Embedded Speech and Audio Processing from Decentralised Data. *arxiv.org*, (2104.11629). 5 pages
- 1191) Amiriparian, S., Sokolov, A., Aslan, I., Christ, L., Gerczuk, M., Hübner, T., Lamanov, D., Milling, M., Otth, S., Poduremennykh, I., Shuranov, E., and Schuller, B. W. (2021b). On the Impact of Word Error Rate on Acoustic-Linguistic Speech Emotion Recognition: An Update for the Deep Learning Era. *arxiv.org*, (2104.10121). 5 pages

- 1192) Aspandi, D., Sukno, F., Binefa, X., and Schuller, B. (2021b). An Enhanced Adversarial Network with Combined Latent Features for Spatio-Temporal Facial Affect Estimation in the Wild. *arxiv.org*, (2102.09150). 10 pages
- 1193) Baird, A., Stappen, L., Christ, L., Schumann, L., Messner, E.-M., and Schuller, B. W. (2021d). A Physiologically-Adapted Gold Standard for Arousal during Stress. *arxiv.org*, (2107.12964). 5 pages
- 1194) Coppock, H., Gaskell, A., Tzirakis, P., Baird, A., Jones, L., and Schuller, B. W. (2021b). End-2-End COVID-19 Detection from Breath & Cough Audio. *arxiv.org*, (2102.08359). 5 pages
- 1195) Dineley, J., Lavelle, G., Leightley, D., Matcham, F., Siddi, S., Peñarrubia-María, M. T., White, K. M., Ivan, A., Oetzmann, C., Simblett, S., Dawe-Lane, E., Bruce, S., Stahl, D., Haro, J. M., Wykes, T., Narayan, V. A., Hotopf, M., Schuller, B. W., Cummins, N., and The RADAR-CNS Consortium (2021b). Remote smartphone-based speech collection: acceptance and barriers in individuals with major depressive disorder. *arxiv.org*, (2104.08600). 5 pages
- 1196) Gerczuk, M., Amiriparian, S., Ottl, S., and Schuller, B. (2021). EmoNet: A Transfer Learning Framework for Multi-Corpus Speech Emotion Recognition. *arxiv.org*, (2103.08310). 18 pages
- 1197) He, X., Chen, J., Rizos, G., and Schuller, B. (2021b). An Improved StarGAN for Emotional Voice Conversion: Enhancing Voice Quality and Data Augmentation. *arxiv.org*, (2107.08361). 5 pages
- 1198) Latif, S., Rana, R., Khalifa, S., Jurdak, R., Qadir, J., and Schuller, B. (2021b). Survey of Deep Representation Learning for Speech Emotion Recognition. *techrxiv.org*, (16689484). 20 pages
- 1199) Liu, S., Han, J., Laporta Puyal, E., Kontaxis, S., Sun, S., Locatelli, P., Dineley, J., Pokorny, F. B., Costa, G. D., Leocani, L., Guerrero, A. I., Nos, C., Zabalza, A., Sørensen, P. S., Buron, M., Magyari, M., Ranjan, Y., Rashid, Z., Conde, P., Stewart, C., Folarin, A. A., Dobson, R., Bailón, R., Vairavan, S., Cummins, N., Narayan, V. A., Hotopf, M., Comi, G., Schuller, B. W., and RADAR-CNS Consortium (2021a). Fitbeat: COVID-19 Estimation based on Wristband Heart Rate. *arxiv.org*, (2104.09263). 34 pages
- 1200) Ma, P., Schonburg Carrillo de Mira, R., Petridis, S., Schuller, B., and Pantic, M. (2021b). LiRA: Learning Visual Speech Representations from Audio through Self-supervision. *arxiv.org*, (2106.09171). 5 pages
- 1201) Mallol-Ragolta, A., Cuesta, H., Gómez, E., and Schuller, B. W. (2021b). EIHW-MTG DiCOVA 2021 Challenge System Report. *arxiv.org*, (2110.06543). 4 pages
- 1202) Mira, R., Vougioukas, K., Ma, P., Petridis, S., Schuller, B. W., and Pantic, M. (2021). End-to-End Video-To-Speech Synthesis using Generative Adversarial Networks. *arxiv.org*, (2104.13332). 12 pages
- 1203) Ottl, S., Amiriparian, S., Gerczuk, M., and Schuller, B. W. (2021). A Machine Learning Framework for Automatic Prediction of Human Semen Motility. *arxiv.org*, (2109.08049). 12 pages
- 1204) Ren, Z., Qian, K., Dong, F., Dai, Z., Yamamoto, Y., and Schuller, B. W. (2021c). Deep Attention-based Representation Learning for Heart Sound Classification. *arxiv.org*, (2101.04979). 8 pages
- 1205) Ren, Z., Chang, Y., and Schuller, B. W. (2021a). The EIHW-GLAM Deep Attentive Multi-model Fusion System for Cough-based COVID-19 Recognition in the DiCOVA 2021 Challenge. *arxiv.org*, (2108.03041). 3 pages
- 1206) Rudovic, O., Tobis, N., Kaltwang, S., Schuller, B., Rueckert, D., Cohn, J. F., and Picard, R. W. (2021). Personalized Federated Deep Learning for Pain Estimation From Face Images. *arxiv.org*, (2101.04800). 12 pages
- 1207) Stappen, L., Baird, A., Lienhart, M., Bätz, A., and Schuller, B. (2021d). An Estimation of Online Video User Engagement from Features of Continuous Emotions. *arxiv.org*, (2105.01633). 13 pages
- 1208) Stappen, L., Schumann, L., Sertolli, B., Baird, A., Weigel, B., Cambria, E., and Schuller, B. W. (2021k). MuSe-Toolbox: The Multimodal Sentiment Analysis Continuous Annotation Fusion and Discrete Class Transformation Toolbox. *arxiv.org*, (2107.11757). 8 pages
- 1209) Stappen, L., Baird, A., Christ, L., Schumann, L., Sertolli, B., Messner, E.-M., Cambria, E., Zhao, G., and Schuller, B. W. (2021c). The MuSe 2021 Multimodal Sentiment Analysis Challenge: Sentiment, Emotion, Physiological-Emotion, and Stress. *arxiv.org*, (2104.07123). 9 pages
- 1210) Stappen, L., Baird, A., Schumann, L., and Schuller, B. (2021f). The Multimodal Sentiment Analysis in Car Reviews (MuSe-CaR) Dataset: Collection, Insights and Improvements. *arxiv.org*, (2101.06053). 16 pages
- 1211) Stappen, L., Hagerer, G., Schuller, B. W., and Groh, G. (2021g). Unsupervised Graph-based Topic Modeling from Video Transcriptions. *arxiv.org*, (2105.01466). 12 pages
- 1212) Triantafyllopoulos, A., Milling, M., Drossos, K., and Schuller, B. W. (2021c). Fairness and Underspecification in Acoustic Scene Classification: The Case for Disaggregated Evaluations. *arxiv.org*, (2110.01506). 5 pages
- 1213) Triantafyllopoulos, A., Reichel, U., Liu, S., Huber, S., Eyben, F., and Schuller, B. W. (2021d). Multistage linguistic conditioning of convolutional layers for speech emotion recognition. *arxiv.org*, (2110.06650). 17 pages
- 1214) Tzirakis, P., Boros, D., Hajiyev, E., and Schuller, B. W. (2021a). Facial Emotion Recognition using Deep Residual Networks in Real-World Environments. *arxiv.org*, (2111.02717). 5 pages
- 1215) Tzirakis, P., Nguyen, A., Zafeiriou, S., and Schuller, B. (2021d). Speech Emotion Recognition using Semantic Information. *arxiv.org*, (2103.02993). 5 pages



- 1216) Zhao, S., Yao, X., Yang, J., Jia, G., Ding, G., Chua, T.-S., Schuller, B. W., and Keutzer, K. (2021c). Affective Image Content Analysis: Two Decades Review and New Perspectives. *arxiv.org*, (2106.16125). 20 pages
- 1217) Zhao, S., Huang, Q., Tang, Y., Yao, X., Yang, J., Ding, G., and Schuller, B. W. (2021a). Computational Emotion Analysis From Images: Recent Advances and Future Directions. *arxiv.org*, (2103.10798). 28 pages
- 1218) Schuller, B. W., Schuller, D. M., Qian, K., Liu, J., Zheng, H., and Li, X. (2020c). COVID-19 and Computer Audition: An Overview on What Speech & Sound Analysis Could Contribute in the SARS-CoV-2 Corona Crisis. *arxiv.org*, (2003.11117). 7 pages
- 1219) Schuller, B. W., Coppock, H., and Gaskell, A. (2020b). Detecting COVID-19 from Breathing and Coughing Sounds using Deep Neural Networks. *arxiv.org*, (2012.14553). 6 pages
- 1220) Amiriparian, S., Winokurov, P., Karas, V., Ottl, S., Gerczuk, M., and Schuller, B. W. (2020d). A Novel Fusion of Attention and Sequence to Sequence Autoencoders to Predict Sleepiness From Speech. *arxiv.org*, (2005.08722). 5 pages
- 1221) Aspandi, D., Mallol-Ragolta, A., Schuller, B., and Binefa, X. (2020a). Adversarial-based neural networks for affect estimations in the wild. *arxiv.org*, (2002.00883). 5 pages
- 1222) Bartl-Pokorny, K. D., Pokorny, F. B., Batliner, A., Amiriparian, S., Semertzidou, A., Eyben, F., Kramer, E., Schmidt, F., Schönweiler, R., Wehler, M., and Schuller, B. W. (2020). The voice of COVID-19: Acoustic correlates of infection. *arxiv.org*, (2012.09478). 8 pages
- 1223) Deshpande, G. and Schuller, B. W. (2020a). An Overview on Audio, Signal, Speech, & Language Processing for COVID-19. *arxiv.org*, (2005.08579). 5 pages
- 1224) Deshpande, G. and Schuller, B. W. (2020b). Audio, Speech, Language, & Signal Processing for COVID-19: A Comprehensive Overview. *arxiv.org*, (2011.14445). 58 pages
- 1225) Han, J., Qian, K., Song, M., Yang, Z., Ren, Z., Liu, S., Liu, J., Zheng, H., Ji, W., Koike, T., Li, X., Zhang, Z., Yamamoto, Y., and Schuller, B. W. (2020b). An Early Study on Intelligent Analysis of Speech under COVID-19: Severity, Sleep Quality, Fatigue, and Anxiety. *arxiv.org*, (2005.00096). 5 pages
- 1226) Haque, K. N., Rana, R., and Schuller, B. (2020a). Guided Generative Adversarial Neural Network for Representation Learning and High Fidelity Audio Generation using Fewer Labelled Audio Data. *arxiv.org*, (2003.02836). 12 pages
- 1227) Haque, K. N., Rana, R., and Schuller, B. W. (2020c). High-Fidelity Audio Generation and Representation Learning with Guided Adversarial Autoencoder. *arxiv.org*, (2006.00877). 20 pages
- 1228) Koike, T., Qian, K., Schuller, B. W., and Yamamoto, Y. (2020c). deepSELF: An Open Source Deep Self End-to-End Learning Framework. *arxiv.org*, (2005.06993). 4 pages
- 1229) Latif, S., Asim, M., Rana, R., Khalifa, S., Jurdak, R., and Schuller, B. W. (2020b). Augmenting Generative Adversarial Networks for Speech Emotion Recognition. *arxiv.org*, (2005.08447). 6 pages
- 1230) Latif, S., Rana, R., Khalifa, S., Jurdak, R., and Schuller, B. W. (2020e). Deep Architecture Enhancing Robustness to Noise, Adversarial Attacks, and Cross-corpus Setting for Speech Emotion Recognition. *arxiv.org*, (2005.08453). 5 pages
- 1231) Latif, S., Rana, R., Khalifa, S., Jurdak, R., Qadir, J., and Schuller, B. W. (2020c). Deep Representation Learning in Speech Processing: Challenges, Recent Advances, and Future Trends. *arxiv.org*, (2001.00378). 25 pages
- 1232) Li, X., Qian, K., Xie, L., Li, X., Cheng, M., Jiang, L., and Schuller, B. W. (2020). A Mini Review on Current Clinical and Research Findings for Children Suffering from COVID-19. *medRxiv*. 11 pages
- 1233) Mohamed, M. M. and Schuller, B. W. (2020a). ConcealNet: An End-to-end Neural Network for Packet Loss Concealment in Deep Speech Emotion Recognition. *arxiv.org*, (2005.07777). 5 pages
- 1234) Mohamed, M. M. and Schuller, B. W. (2020b). “I have vxxx bxx connexxn!”: Facing Packet Loss in Deep Speech Emotion Recognition. *arxiv.org*, (2005.07757). 5 pages
- 1235) Mohamed, M. M., Nessiem, M. A., and Schuller, B. W. (2020). On Deep Speech Packet Loss Concealment: A Mini-Survey. *arxiv.org*, (2005.07794). 5 pages
- 1236) Qian, K., Schuller, B. W., and Yamamoto, Y. (2020b). Recent Advances in Computer Audition for Diagnosing COVID-19: An Overview. *arxiv.org*, (2012.04650). 2 pages
- 1237) Rajapakshe, T., Latif, S., Rana, R., Khalifa, S., and Schuller, B. W. (2020). Deep Reinforcement Learning with Pre-training for Time-efficient Training of Automatic Speech Recognition. *arxiv.org*, (2005.11172). 5 pages
- 1238) Ren, Z., Kong, Q., Han, J., Plumbley, M. D., and Schuller, B. W. (2020c). CAA-Net: Conditional Atrous CNNs with Attention for Explainable Device-robust Acoustic Scene Classification. *arxiv.org*, (2011.09299). 12 pages
- 1239) Stappen, L., Brunn, F., and Schuller, B. W. (2020c). Cross-lingual Zero- and Few-shot Hate Speech Detection utilising frozen Transformer Language Models and AXEL. *arxiv.org*, (2004.13850). 16 pages
- 1240) Stappen, L., Du, X., Karas, V., Müller, S., and Schuller, B. W. (2020d). Go-CaRD – Generic, Optical Car Part Recognition and Detection: Collection, Insights, and Applications. *arxiv.org*, (2006.08521). 6 pages
- 1241) Stappen, L., Baird, A., Rizos, G., Tzirakis, P., Du, X., Hafner, F., Schumann, L., Mallol-Ragolta, A., Schuller, B. W., Lefter, I., Cambria, E., and Kompat-

- siaris, I. (2020a). MuSe 2020 – The First International Multimodal Sentiment Analysis in Real-life Media Challenge and Workshop. *arxiv.org*, (2004.14858). 10 pages
- 1242) Stappen, L., Baird, A., Schumann, L., and Schuller, B. (2021f). The Multimodal Sentiment Analysis in Car Reviews (MuSe-CaR) Dataset: Collection, Insights and Improvements. *arxiv.org*, (2101.06053). 16 pages
- 1243) Ye, Z. J. and Schuller, B. W. (2020). Capturing dynamics of post-earnings-announcement drift using genetic algorithm-optimised supervised learning. *arxiv.org*, (2009.03094). 19 pages
- 1244) Zhang, L., Li, J., Li, P., Lu, X., Shen, P., Zhu, G., Shah, S. A., Bennarmoun, M., Qian, K., and Schuller, B. W. (2020a). MeDaS: An open-source platform as service to help break the walls between medicine and informatics. *arxiv.org*, (2007.06013). 15 pages
- 1245) Zhang, L., Qian, K., Schuller, B. W., Lu, C., Shibuta, Y., and Huang, X. (2020b). Prediction of mechanical properties of non-equiatomic high-entropy alloy by atomistic simulation and machine learning. *arxiv.org*, (2004.04439). 33 pages
- 1246) Baird, A. and Schuller, B. (2019). Acoustic Sounds for Wellbeing: A Novel Dataset and Baseline Results. *arxiv.org*, (1908.01671). 5 pages
- 1247) Batliner, A., Steidl, S., Eyben, F., and Schuller, B. (2019). On Laughter and Speech Laugh, Based on Observations of Child-Robot Interaction. *arxiv.org*, (1908.11593). 25 pages
- 1248) Han, J., Zhang, Z., Ren, Z., and Schuller, B. (2019b). EmoBed: Strengthening Monomodal Emotion Recognition via Training with Crossmodal Emotion Embeddings. *arxiv.org*, (1907.10428). 12 pages
- 1249) Baird, A., Hantke, S., and Schuller, B. (2019e). Responsible and Representative Multimodal Data Acquisition and Analysis: On Auditability, Benchmarking, Confidence, Data-Reliance & Explainability. *arxiv.org*, (1903.07171). 4 pages
- 1250) Kim, J. Y., Liu, C., Calvo, R. A., McCabe, K., Taylor, S. C. R., Schuller, B. W., and Wu, K. (2019). A Comparison of Online Automatic Speech Recognition Systems and the Nonverbal Responses to Unintelligible Speech. *arxiv.org*, (1904.12403). 10 pages
- 1251) Kossaifi, J., Walecki, R., Panagakis, Y., Shen, J., Schmitt, M., Ringeval, F., Han, J., Pandit, V., Schuller, B., Star, K., Hajiyev, E., and Pantic, M. (2019). SEWA DB: A Rich Database for Audio-Visual Emotion and Sentiment Research in the Wild. *arxiv.org*, (1901.02839). 19 pages
- 1252) Liu, S., Keren, G., and Schuller, B. W. (2019b). N-HANS: Introducing the Augsburg Neuro-Holistic Audio-eNhancement System. *arxiv.org*, (1911.07062). 5 pages
- 1253) Liu, S., Keren, G., and Schuller, B. (2019a). Single-Channel Speech Separation with Auxiliary Speaker Embeddings. *arxiv.org*, (1906.09997). 5 pages
- 1254) Özbay, A. G., Laizet, S., Tzirakis, P., Rizos, G., and Schuller, B. (2019). Poisson CNN: Convolutional Neural Networks for the Solution of the Poisson Equation with Varying Meshes and Dirichlet Boundary Conditions. *arxiv.org*, (1910.08613). 36 pages
- 1255) Pandit, V. and Schuller, B. (2019). On Many-to-Many Mapping Between Concordance Correlation Coefficient and Mean Square Error. *arxiv.org*, (1902.05180). 23 pages
- 1256) Rajapakshe, T., Rana, R., Latif, S., Khalifa, S., and Schuller, B. W. (2019). Pre-training in Deep Reinforcement Learning for Automatic Speech Recognition. *arxiv.org*, (1910.11256). 5 pages
- 1257) Rana, R., Latif, S., Khalifa, S., Jurdak, R., Epps, J., and Schuller, B. W. (2019). Multi-Task Semi-Supervised Adversarial Autoencoding for Speech Emotion. *arxiv.org*, (1907.06078). 9 pages
- 1258) Ringeval, F., Schuller, B., Valstar, M., Cummins, N., Cowie, R., Tavabi, L., Schmitt, M., Alisamir, S., Amiriparian, S., Messner, E.-M., Song, S., Liu, S., Zhao, Z., Mallol-Ragolta, A., Ren, Z., Soleymani, M., and Pantic, M. (2019c). AVEC 2019 Workshop and Challenge: State-of-Mind, Detecting Depression with AI, and Cross-Cultural Affect Recognition. *arxiv.org*, (1907.11510). 11 pages
- 1259) Rudovic, O., Zhang, M., Schuller, B., and Picard, R. W. (2019c). Multi-modal Active Learning From Human Data: A Deep Reinforcement Learning Approach. *arxiv.org*, (1906.03098). 10 pages
- 1260) Tzirakis, P., Papaioannou, A., Lattas, A., Tarasiou, M., Schuller, B., and Zafeiriou, S. (2019b). Synthesising 3D Facial Motion from “In-the-Wild” Speech. *arxiv.org*, (1904.07002). 10 pages
- 1261) Wiest, T., Cummins, N., Baird, A., Hantke, S., Dineley, J., and Schuller, B. (2019). Voice command generation using Progressive Wavegans. *arxiv.org*, (1903.07395). 7 pages
- 1262) Zhang, Z., Wu, B., and Schuller, B. (2019c). Attention-Augmented End-to-End Multi-Task Learning for Emotion Prediction from Speech. *arxiv.org*, (1903.12424). 5 pages
- 1263) Zhang, Z., Han, J., Qian, K., Janott, C., Guo, Y., and Schuller, B. (2019a). Snore-GANs: Improving Automatic Snore Sound Classification with Synthesized Data. *arxiv.org*, (1903.12422). 11 pages
- 1264) Han, J., Zhang, Z., Cummins, N., and Schuller, B. (2018b). Adversarial Training in Affective Computing and Sentiment Analysis: Recent Advances and Perspectives. *arxiv.org*, (1809.08927). 13 pages
- 1265) Keren, G., Cummins, N., and Schuller, B. (2018b). Calibrated Prediction Intervals for Neural Network Regressors. *arxiv.org*, (1803.09546). 8 pages
- 1266) Keren, G., Han, J., and Schuller, B. (2018d). Scaling Speech Enhancement in Unseen Environments with Noise Embeddings. *arxiv.org*, (1810.12757). 5 pages
- 1267) Keren, G., Schmitt, M., Kehrenberg, T., and Schuller, B. (2018g). Weakly Supervised One-Shot Detection with Attention Siamese Networks. *arxiv.org*, (arXiv:1801.03329). 11 pages
- 1268) Kollias, D., Tzirakis, P., Nicolaou, M. A., Papaioan-

- nou, A., Zhao, G., Schuller, B., Kotsia, I., and Zafeiriou, S. (2019b). Deep Affect Prediction in-the-wild: Aff-Wild Database and Challenge, Deep Architectures, and Beyond. *arxiv.org*, (1804.10938). 21 pages
- 1269) Rudovic, O., Lee, J., Dai, M., Schuller, B., and Picard, R. (2018a). Personalized Machine Learning for Robot Perception of Affect and Engagement in Autism Therapy. *arxiv.org*, (1802.01186). 48 pages
- 1270) Song, S., Zhang, S., Schuller, B., Shen, L., and Valstar, M. (2018b). Noise Invariant Frame Selection: A Simple Method to Address the Background Noise Problem for Text-independent Speaker Verification. *arxiv.org*, (1805.01259). 8 pages
- 1271) Triantafyllopoulos, A., Sagha, H., Eyben, F., and Schuller, B. (2018). audEERING' s approach to the One-Minute-Gradual Emotion Challenge. *arxiv.org*, (1805.01222). 3 pages
- 1272) Tzirakis, P., Zafeiriou, S., and Schuller, B. (2018a). End2You – The Imperial Toolkit for Multimodal Profiling by End-to-End Learning. *arxiv.org*, (1802.01115). 5 pages
- 1273) Wagner, J., Baur, T., Zhang, Y., Valstar, M. F., Schuller, B., and André, E. (2018b). Applying Cooperative Machine Learning to Speed Up the Annotation of Social Signals in Large Multi-modal Corpora. *arxiv.org*, (1802.02565). 41 pages
- 1274) Zhang, Z., Han, J., Coutinho, E., and Schuller, B. (2018d). Dynamic Difficulty Awareness Training for Continuous Emotion Prediction. *arxiv.org*, (1810.05507). 13 pages
- 1275) Freitag, M., Amiriparian, S., Pugachevskiy, S., Cummins, N., and Schuller, B. (2017b). auDeep: Unsupervised Learning of Representations from Audio with Deep Recurrent Neural Networks. *arxiv.org*, (arXiv:1712.04382). 5 pages
- 1276) Keren, G., Sabato, S., and Schuller, B. (2017b). The Principle of Logit Separation. *arxiv.org*, (arXiv:1705.10246). 11 pages
- 1277) Tzirakis, P., Trigeorgis, G., Nicolaou, M. A., Schuller, B., and Zafeiriou, S. (2017b). End-to-End Multimodal Emotion Recognition using Deep Neural Networks. *arxiv.org*, (1704.08619). 9 pages
- 1278) Tran, D. L., Walecki, R., Rudovic, O., Eleftheriadis, S., Schuller, B., and Pantic, M. (2017b). Deep-Coder: Semi-parametric Variational Autoencoders for Facial Action Unit Intensity Estimation. *arxiv.org*, (1704.02206). 11 pages
- 1279) Walecki, R., Rudovic, O., Pavlovic, V., Schuller, B., and Pantic, M. (2017a). Deep Structured Learning for Facial Action Unit Intensity Estimation. *arxiv.org*, (1704.04481). 10 pages
- 1280) Zhang, Z., Geiger, J., Pohjalainen, J., Mousa, A. E.-D., and Schuller, B. (2017e). Deep Learning for Environmentally Robust Speech Recognition: An Overview of Recent Developments. *arxiv.org*, (arXiv:1705.10874). 14 pages
- 1281) Zhang, Z., Liu, D., Han, J., and Schuller, B. (2017f). Learning Audio Sequence Representations for Acoustic Event Classification. *arxiv.org*, (1707.08729). 8 pages
- 1282) Keren, G. and Schuller, B. (2016b). Convolutional RNN: an Enhanced Model for Extracting Features from Sequential Data. *arxiv.org*, (1602.05875). 8 pages
- 1283) Keren, G., Sabato, S., and Schuller, B. (2016b). Tunable Sensitivity to Large Errors in Neural Network Training. *arxiv.org*, (arXiv:1611.07743). 10 pages
- 1284) Schmitt, M. and Schuller, B. (2016). openXBOW – Introducing the Passau Open-Source Crossmodal Bag-of-Words Toolkit. *arxiv.org*, (1605.06778). 9 pages
- 1285) Valstar, M., Gratch, J., Schuller, B., Ringeval, F., Lalanne, D., Torres, M. T., Scherer, S., Stratou, G., Cowie, R., and Pantic, M. (2016c). AVEC 2016 – Depression, Mood, and Emotion Recognition Workshop and Challenge. *arxiv.org*, (1605.01600). 8 pages
- 1286) Abdić, I., Fridman, L., Marchi, E., Brown, D. E., Angell, W., Reimer, B., and Schuller, B. (2015). Detecting Road Surface Wetness from Audio: A Deep Learning Approach. *arxiv.org*, (1511.07035). 5 pages
- 1287) Mousa, A. E.-D., Marchi, E., and Schuller, B. (2015). The ICSTM+TUM+UP Approach to the 3. CHIME Challenge: Single-Channel LSTM Speech Enhancement with Multi-Channel Correlation Shaping Dereverberation and LSTM Language Models. *arxiv.org*, (1510.00268). 9 pages
- 1288) Trigeorgis, G., Bousmalis, K., Zafeiriou, S., and Schuller, B. (2015a). A deep matrix factorization method for learning attribute representations. *arxiv.org*, (1509.03248). 15 pages
- 1289) Schuller, B., Marchi, E., Baron-Cohen, S., O'Reilly, H., Pigat, D., Robinson, P., and Daves, I. (2014c). The state of play of ASC-Inclusion: An Integrated Internet-Based Environment for Social Inclusion of Children with Autism Spectrum Conditions. *arxiv.org*, (1403.5912). 8 pages
- 1290) Geiger, J. T., Kneißl, M., Schuller, B., and Rigoll, G. (2014d). Acoustic Gait-based Person Identification using Hidden Markov Models. *arxiv.org*, (1406.2895). 5 pages
- 1291) Weninger, F., Schuller, B., Eyben, F., Wöllmer, M., and Rigoll, G. (2014c). A Broadcast News Corpus for Evaluation and Tuning of German LVCSR Systems. *arxiv.org*, (1412.4616). 4 pages