

Titre de la thèse

Thèse de doctorat de l'Université Gustave Eiffel

École doctorale n° d'accréditation, dénomination et sigle

Spécialité de doctorat: voir annexe

Unité de recherche : voir annexe

**Thèse présentée et soutenue à l'Université Gustave Eiffel,
le 10/12/2021, par :**

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Acknowledgment

I would like to express my gratitude ...

"Citation"

Abstract

Abstract of Ph.D. in English.

Résumé

Resume de la these en francais.

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List of Acronyms

ABC

Aaa Bbb Ccc

Publications

Journals

1. Author 1, Author 2, and Author 3, "Title of paper", Journal, Year, Tome, Pages.

International Conferences

1. Author 1, Author 2, and Author 3, "Title of paper" Name of conference, City, Country, Year, Tome, Pages.

National Conferences

1. Author 1, Author 2, and Author 3, "Title of paper", Title of conference, Date, City, Country.

Introduction

Motivation

Motivation behind Ph.D. work.

Objectives

This thesis aims to address these questions through the following objectives:

This dissertation mainly focuses on:

- Topic 1.
- Topic 2.
- Topic 3 ...

Main Contributions

The main contributions of this dissertation are listed as follows:

- Contribution 1:
 - Sub-contribution 1.
 - Sub-contribution 2.
 - Sub-contribution 3...
- Contribution 2.
- Contribution 3...

Context

The Ph.D. work presented in this dissertation is funded by the X research project ...

Outline

The dissertation consists of X chapters.

Chapter 1 presents general concepts and the background ...

The principle of X is described in Chapter 2 ...

In Chapter 3, the problem X is investigated ...

A new approach is proposed in Chapter 4 to ...

Finally, we give the conclusion and perspectives.

Chapter 1

Title of Chapter 1

1.1 Introduction

Text of introduction.

1.2 Section 2

Example of equation of a given parameter P as described in [1], which is defined by the ratio of the peak value V_{peak} and the average value V_{avg} as:

$$P_v = 10 \log \left(\frac{V_{\text{peak}}}{V_{\text{avg}}} \right) \quad (1.1)$$

The reference to the equation is (1.1).

Figure 1.1 presents a bird in JPEG format.



Figure 1.1: Bird in JPEG format

The PDF format can also be used in Figure 1.2



Figure 1.2: Bird in JPEG format

1.3 Conclusion

This chapter has provided an overview of the X ...

The main contributions of these dissertations are thoroughly presented in the following chapters.

Chapter 2

Title of Chapter 2

2.1 Introduction

Text of introduction

2.2 Section

For complex equations, we can define an example of mathematical equation in (2.1):

$$\begin{aligned} y(n) = & \sum_{k=0}^{\frac{K-1}{2}} \sum_{i=0}^M a_{2k+1,1} |x(n)|^{2k} x(n-i) \\ & + \sum_{k=1}^{\frac{K-1}{2}} \sum_{i=1}^M a_{2k+1,2} |x(n)|^{2(k-1)} x^2(n) x^*(n-i) \\ & + \sum_{k=1}^{\frac{K-1}{2}} \sum_{i=1}^M a_{2k+1,3} |x(n)|^{2(k-1)} x(n) |x(n-i)|^2 \\ & + \sum_{k=1}^{\frac{K-1}{2}} \sum_{i=1}^M a_{2k+1,4} |x(n)|^{2(k-1)} x^*(n) x^2(n-i) \\ & + \sum_{k=1}^{\frac{K-1}{2}} \sum_{i=1}^M b_{2k+1} |x(n-i)|^{2k} x(n-i) \end{aligned} \quad (2.1)$$

The matrix of a given model can be represented as:

$$\mathbf{Z} = \begin{bmatrix} \Phi_{1,1}(z(n)) & \dots & \Phi_{K,1}(z(n)) & \Phi_{1,2}(z(n)) & \dots & \Phi_{K,L}(z(n)) \\ \Phi_{1,1}(z(n-1)) & \vdots & \ddots & & \vdots & \Phi_{K,L}(z(n-1)) \\ \vdots & \vdots & & & \vdots & \\ \Phi_{1,1}(z(n-N+1)) & \dots & & & & \Phi_{K,L}(z(n-N+1)) \end{bmatrix} \quad (2.2)$$

where $\Phi_{k,l}(z(n)) = z(n-l+1)|z(n-l+1)|^{k-1}$.

Table 2.1 presents an example of tables

Table 2.1: Comparison

Model for Comparison	Parameters	Number of parameters
Model 1	<i>A</i> : parameter 1 <i>B</i> : parameter 2	$A + B$
Model 2	<i>A</i> : parameter 1 <i>B</i> : parameter 2	$A + B$

For large tables, you have to use the package *adjustbox* to re-size the table according to the width of the document.

2.3 Conclusion

This chapter introduces the principle of ...

For that purpose, the following chapter will focus on ...

Chapter 3

Optimization and Sizing of DVR Model

3.1 Introduction

Text of introduction ...

3.2 Section 1

An example of Algorithm of a given mathematical behavior of $f(x_1)$ and $f(x_2)$ is illustrated in Algorithm (1).

<p>Algorithm 1: Algorithm of test</p> <pre>q = 0 ; a₀ = a ; b₀ = b Compute x₁ and x₂ while b_q - a_q > ε do Compute f(x₁) and f(x₂) if f(x₁) ≤ f(x₂) then a_{q+1} = a_q b_{q+1} = x₂ x₂ = x₁ Compute x₁ end q = q + 1 end x_{opt} = $\frac{a_q + b_q}{2}$</pre>
--

Table 3.1 present an example of complex tables.

Table 3.1: Comparison of criterion 1, 2, and 3

	Uniform Test	Random Test	
		Best case	Worst case
Results before optimization	[1.11 2.22 3.33]	[1.11 2.22 3.33]	[1.11 2.22 3.33]
Index 1	14.98	38.68	12.09
Application of our approach			
Optimization of Results	[1.11 2.22 3.33]	[1.11 2.22 3.33]	[1.11 2.22 3.33]
Index 1	20.76	45.09	23.98
Index 2	Left	18.49	18.49
	Right	18.82	19.82
Index 3	Left	4	1
	Center	2	3
	Right	3	1

3.3 Section 2

3.3.1 Sub-Section 1

3.3.1.1 Sub Sub-Section 1

3.3.1.1.1 Paragraph

3.3.1.1.1.1 Sub-Paragraph

You can enumerate the sub paragraph by changing the number in used to set counter in `setcounter{secnumdepth}{5}`

3.4 Conclusion

In this chapter, X are discussed and investigated ...

Conclusion and Perspectives

Contributions

In this dissertation, we have focused on ... This dissertation mainly focuses on three aspects ...

1. Aspect 1.
2. Aspect 2.
3. Aspect 3 ...

Perspectives

To extend this dissertation, some research works could be developed:

1. Perspective 1.
2. Perspective 2.
3. Perspective 3 ...

Further research works are currently in progress for submission, which are listed along with the abstract:

- Author 1, Author 2 and Author 3, “Title of paper 1”.
– Abstract: *Abstract of paper*
- Author 1, Author 2 and Author 3, “Title of paper 2”.
– Abstract: *Abstract of paper2*
- Author 1, Author 2 and Author 3, “Title of paper 3”.
– Abstract: *Abstract of paper 3*

Résumé détaillé de la thèse en français

Titre de thèse

Introduction

Contribution 1

Texte de la contribution 1.

Contribution 2

Texte de la contribution 2.

Contribution 3

Texte de la contribution 3 ...

Conclusion et perspectives

Dans cette thèse, nous nous sommes concentrés sur ...

1. Contribution 1.
2. Contribution 2.
3. Contribution 3 ...

Bibliography

- [1] Author 1. Author 2, Author 3, "Title of paper," in IEEE Microwave Magazine, vol. 11, no. 5, pp. 44-58, Aug. 2020.

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