



CentraleSupélec

université  
PARIS-SACLAY

# Big Data Management & Analytics Master

---

## DIFFERENTIAL EQUATIONS SOLVER USING NFTM FOR BURGER EQUATIONS

---

Samuel CHAPUIS

samuel.chapuis@student-cs.fr

Lucia Victoria FERNANDEZ SANCHEZ

lucia-victoria.fernandez@student-cs.fr

Alexandra PERRUCHOT-TRIBOULET RODRIGUEZ

alexandra.perruchot-triboulet-rodriguez@student-cs.fr

[Github Link](#)

*Advisor:* Nacéra SEGHOUANI - Nacera.Seghouani@centralesupelec.fr

*Advisor:* Akash MALHOTRA - akash.malhotra@centralesupelec.fr



## Introduction

Hello World, this is Lucia!



# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Related Work</b>	<b>3</b>
<b>3</b>	<b>Background</b>	<b>5</b>
<b>4</b>	<b>Our Methodology and Approach</b>	<b>7</b>
<b>5</b>	<b>Experiments and Evaluation</b>	<b>9</b>
<b>6</b>	<b>Conclusion and Perspectives</b>	<b>11</b>
6.1	Gl remarks . . . . .	11
6.2	Gl remarks about the presentation . . . . .	11
<b>A</b>	<b>Appendix</b>	<b>13</b>



# Introduction

---

This chapter must introduce :

- The general context: applications/needs
- The problem and the challenges, you can cite some main works
- Your problem/ objective in this project
- The main contributions of the work
- the outline about the content of the report.





# Related Work

---

It is expected to find:

- The research articles related to your defined problem/objective
- Try to present them by category, the main ideas behind and their limitations
- Justify your directions/choices. This part should make a link with the next chapter.



# Background

---

The objective here is to detail the main concepts/definitions existing algorithms needed to understand your work to be detailed later and to introduce the notations to be used.

Use examples

Don't forget to cite again these existing approaches



# Our Methodology and Approach

---

- First the overall methodology using a figure: different components
- Explain in detail each component: it's based on the previous chapter, algorithms if an existing algorithm is extended,
- use examples
- no code but pseudo-code
- the link to your Github must appear in first title page (as a footnote). make sure that the supervisors and me have the access. A text file called readme.text must explain ho to run your program, using your dataset



# Experiments and Evaluation

---

- Objective of Experiments, which measures, which comparisons, evaluations, according to which parameters
- Data description
- Overall program using a figure (API ???) make the link with the components/parts explained in the previous chapter
- no code
- Results/interpretation, each table/curve must be explained in the text





# Conclusion and Perspectives

---

A summary of your work. More focused on the results

The limitations of the work -> which perspectives/clues to deal with limitations, to improve your work

the last paragraph must be dedicated to the work in team

## 6.1 Gl remarks

GENERAL :

Each table, figure must be cited and explained in the text.

The references must be complete

Each chapter must start with a paragraph to introduce its content (no need to have a separated for that), except the introduction and the conclusion. In the same manner each chapter must finish with a paragraph to conclude and to make a link with the next one, except the introduction and the conclusion.

## 6.2 Gl remarks about the presentation

The slides must be numbered

The presentation follows more and less the structure of the report

No too much blabla about the the gl context you need to define the objectives of the project (with examples if possible) ...

Then how your work fits into existing works (some main related works), the overall pipeline, your main contributions in this pipeline

also your main contributions in terms of implementation

the main results

Conclusions and next ...

Then the overall



APPENDIX A

# Appendix

---

The progress draft must be included in the appendix



**Abstract:**

---

**Keywords:**