Title

Author

Doctor of Philosophy

The Hong Kong Polytechnic University

Initial Submission for Examination Purpose

2022

Typeset using LaTeX 2ε on August 25, 2022.

The Hong Kong Polytechnic University
Department of Applied Mathematics

Title

Author

A thesis submitted in partial fulfilment
of the requirements for the degree of
Doctor of Philosophy

August, 2022

This page intentionally left blank

CERTIFICATE OF ORIGINALITY

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

_____ (Signed)

Author

_____ (Name of Student)

This page intentionally left blank

To

whoever you want,

with thanks and love

This page intentionally left blank

Abstract

This is the abstract.

This page intentionally left blank

Acknowledgments

This is the acknowledgments.

This page intentionally left blank

Contents

This page intentionally left blank

List of Figures

This page intentionally left blank

List of Tables

This page intentionally left blank

List of Algorithms

This page intentionally left blank

Listings

This page intentionally left blank

Acronyms

KKT Karush-Kuhn-Tucker. 1

This page intentionally left blank

Todo list

This page intentionally left blank

1 Introduction

1.1 Get started

In the file `thesis.tex`, enter your thesis' title, your name, the date of creation, and the date of revision (if none, put the same as the date of creation). To compile this document, run in a terminal (for Linux and macOS) the command `make` (necessitates the package latexmk v4.51 or later).

1.2 Cross references

If you have a numbered figure, table, equation, etc, such as

$$a^2 + b^2 = c^2, \tag{1.2.1}$$

use `\cref{...}` to refer to it. On this example, it gives (1.2.1). For figures, tables, etc, it will automatically add a name to the reference.

Figure 1.1: A rectangle

For example, to refer to Figure 1.1, I only typed `\cref{fig:rectangle}` (without writing explicitely Figure). If you want several references simultaneously, just separate them with commas in a single `\cref` command.

1.3 Glossaries

In the file `utils/glossary.tex`, put your acronyms and glossaries entries. The acronyms will be displayed entirely at their first use. For example, you might need the *Karush-Kuhn-Tucker* (KKT) conditions. This has been typeset as `\gls{kkt}`. When using in titles, sections, etc, use `\glsfmtshort{...}` and `\glsfmtlong{...}` to have the acronyms and descriptions, respectively.

1.4 Index

I took most of the code from [1]. He describes how to do it carefully.

This page intentionally left blank

2 Conclusion and future research directions

2.1 Conclusion

This is the conclusion.

2.2 Future research directions

This is the future research directions.

This page intentionally left blank

Bibliography

[1] N. J. Higham. *Handbook of Writing for the Mathematical Sciences*. Third. Society for Industrial & Applied Mathematics (SIAM), 2020 (Cited on page 1).

This page intentionally left blank