### TITLE

#### Author

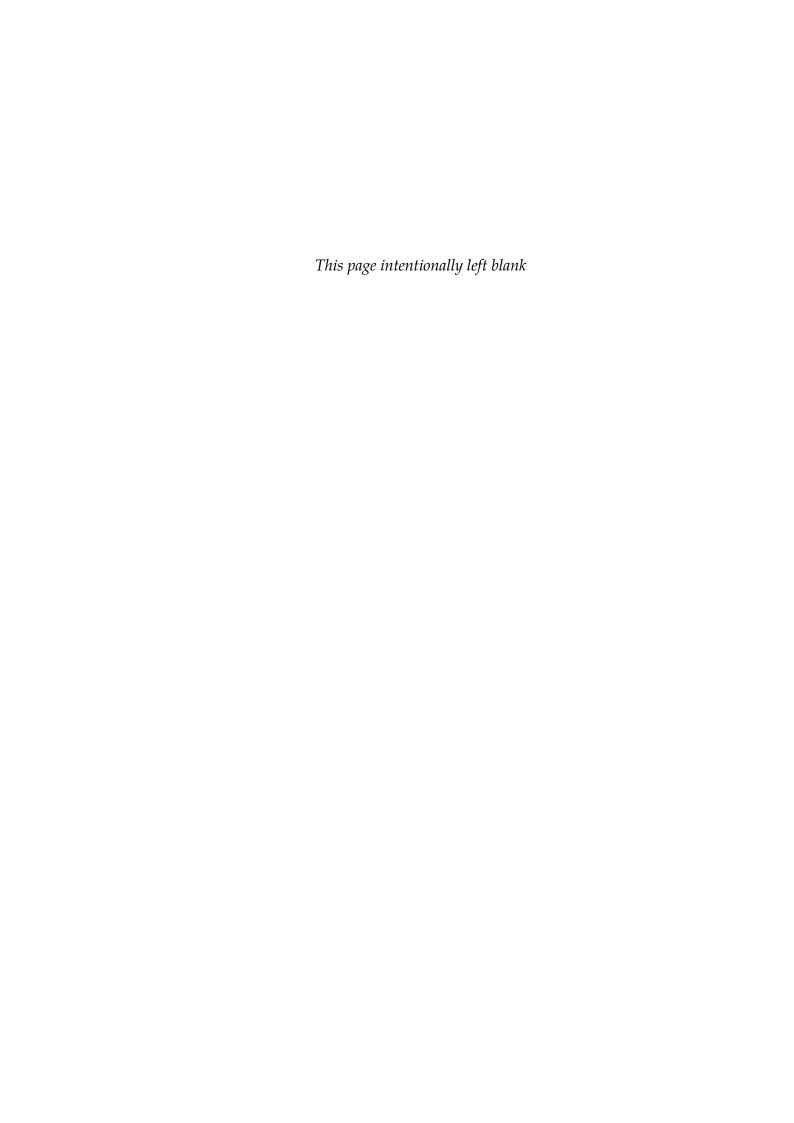
Doctor of Philosophy
The Hong Kong Polytechnic University

# The Hong Kong Polytechnic University Department of Applied Mathematics

TITLE

Author

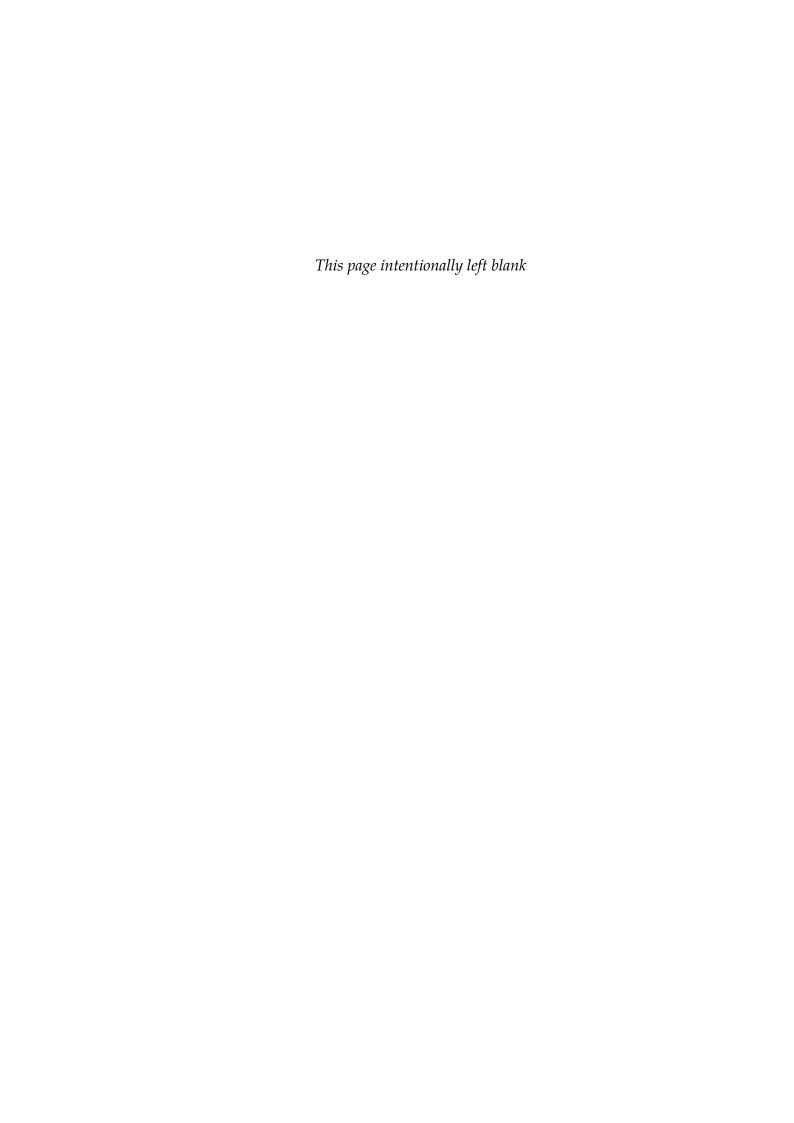
A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy



### **CERTIFICATE OF ORIGINALITY**

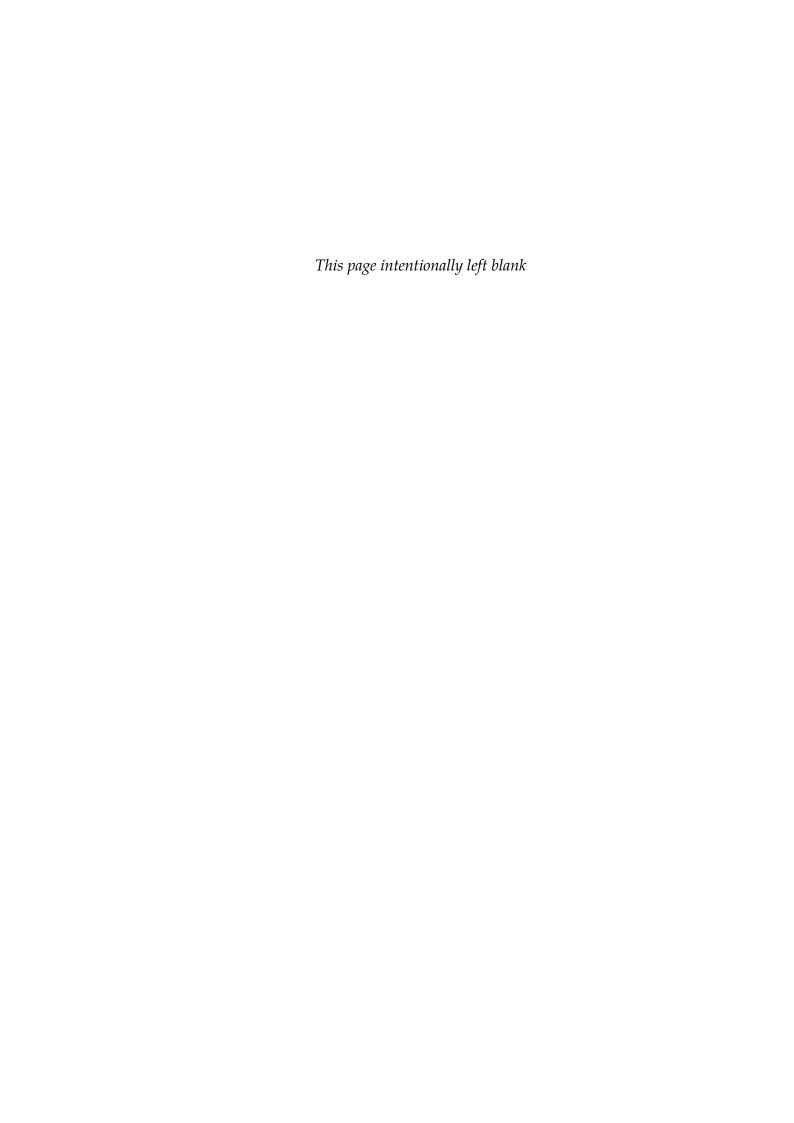
I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it reproduces no material previously published or written, nor material that has been accepted for the award of any other degree or diploma, except where due acknowledgement has been made in the text.

	(Signed)
Author	(Name of Student)



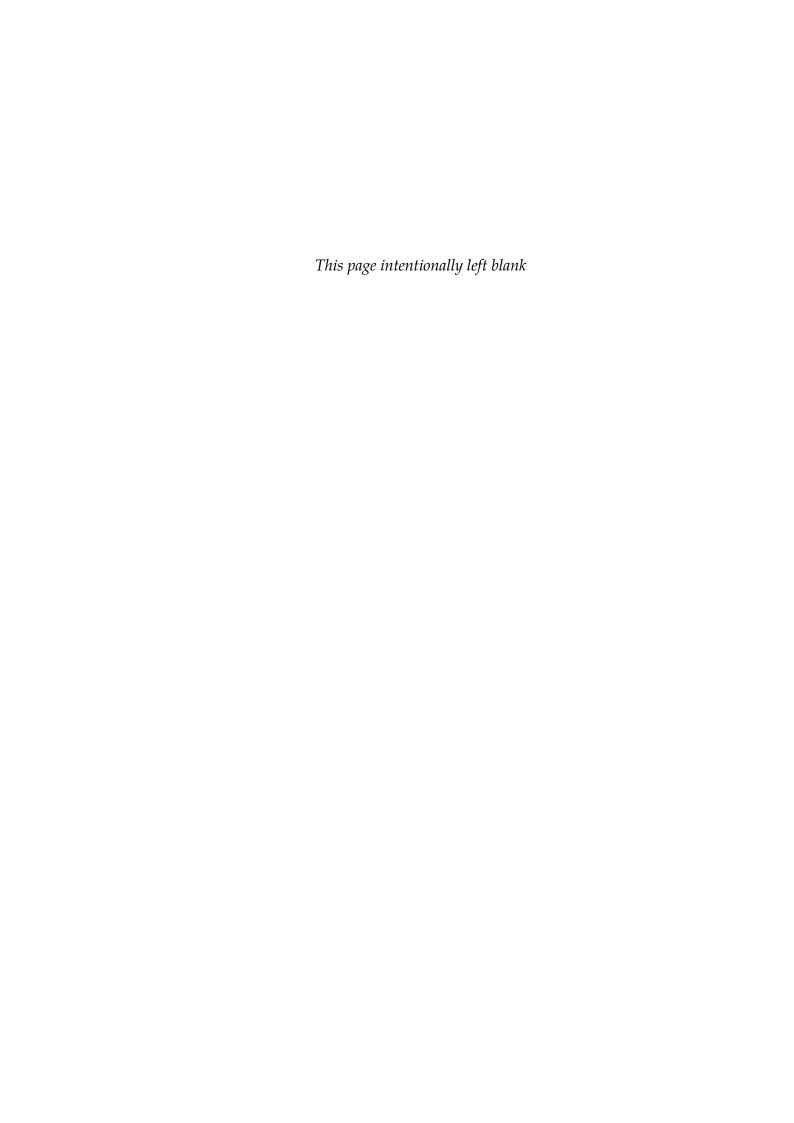
whoever you want,

with thanks and love



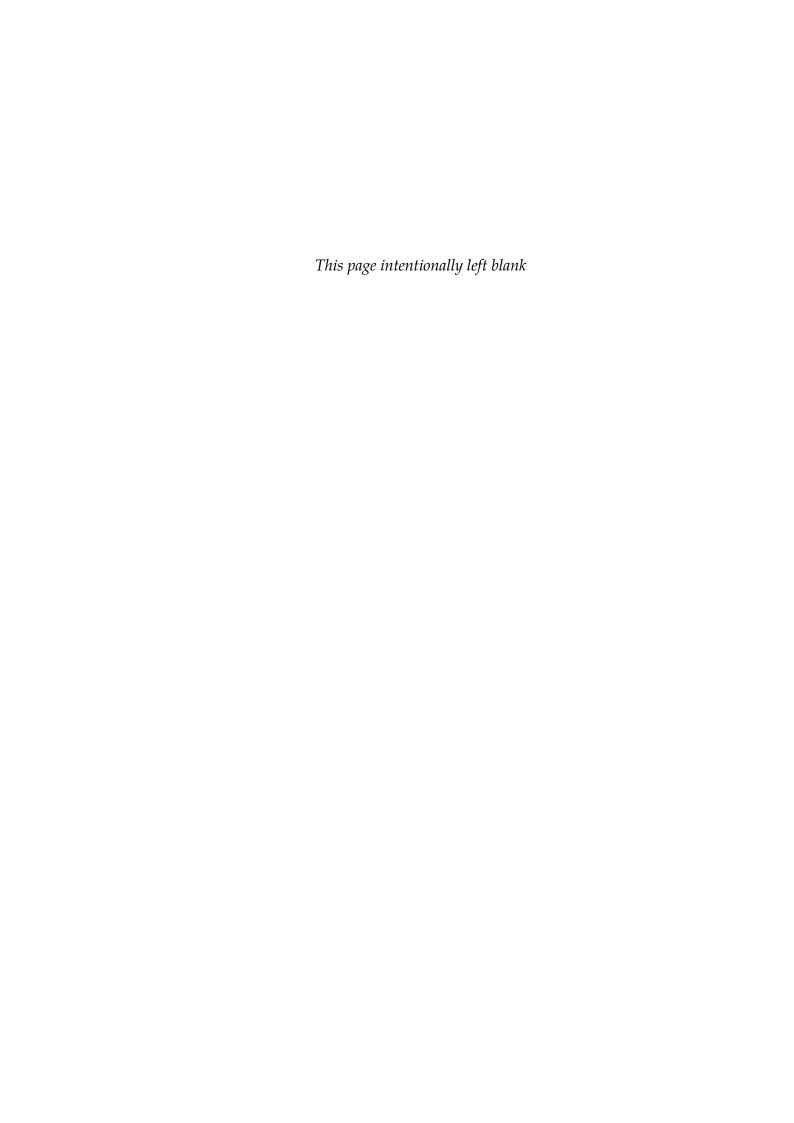
### **Abstract**

This is the abstract.



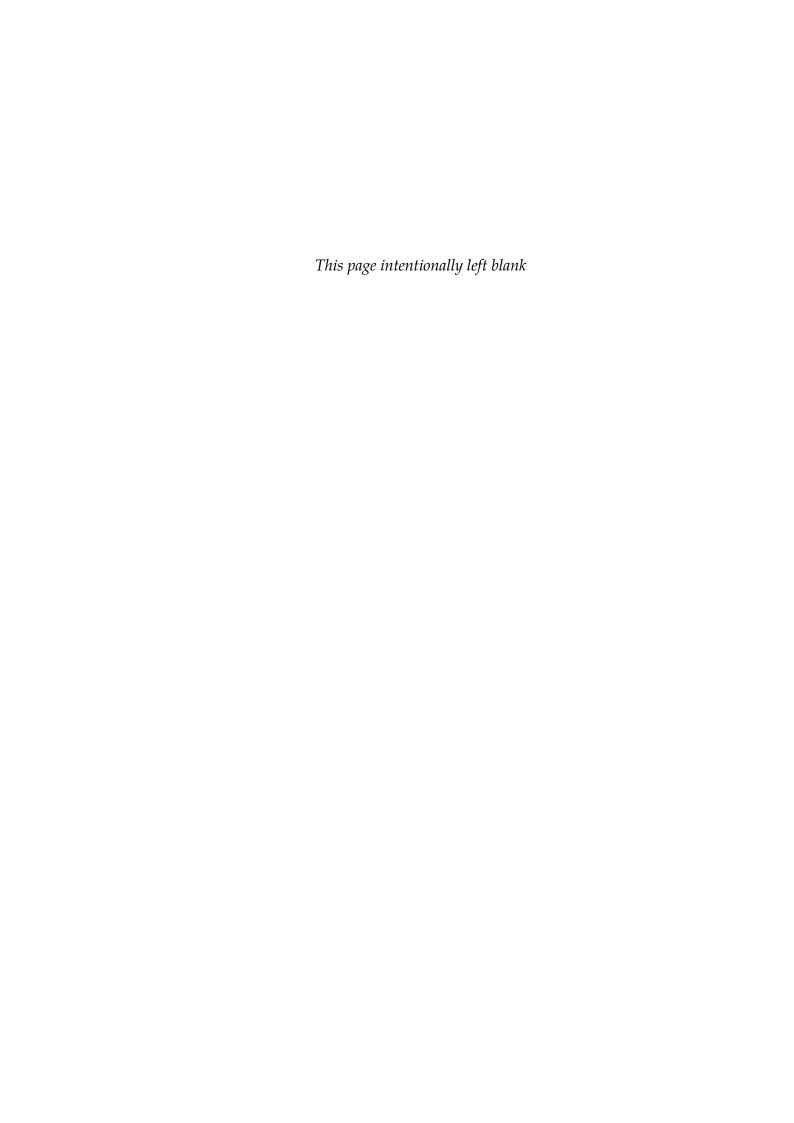
## Acknowledgments

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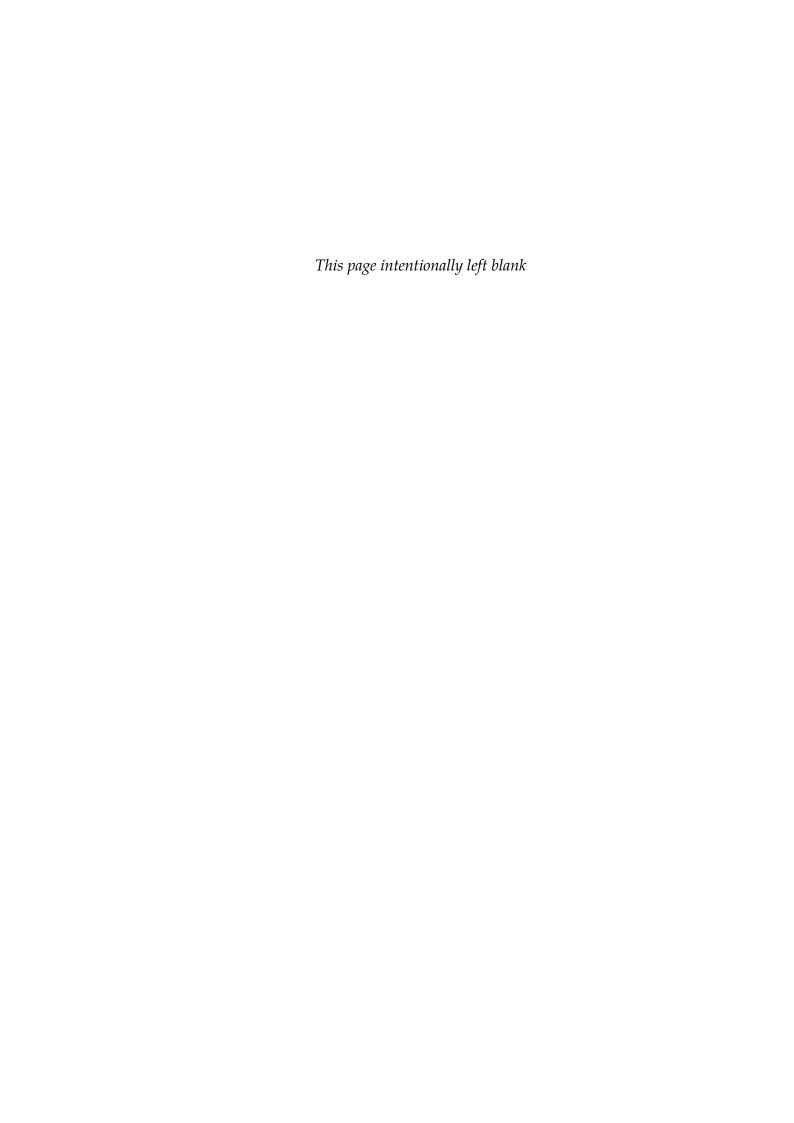
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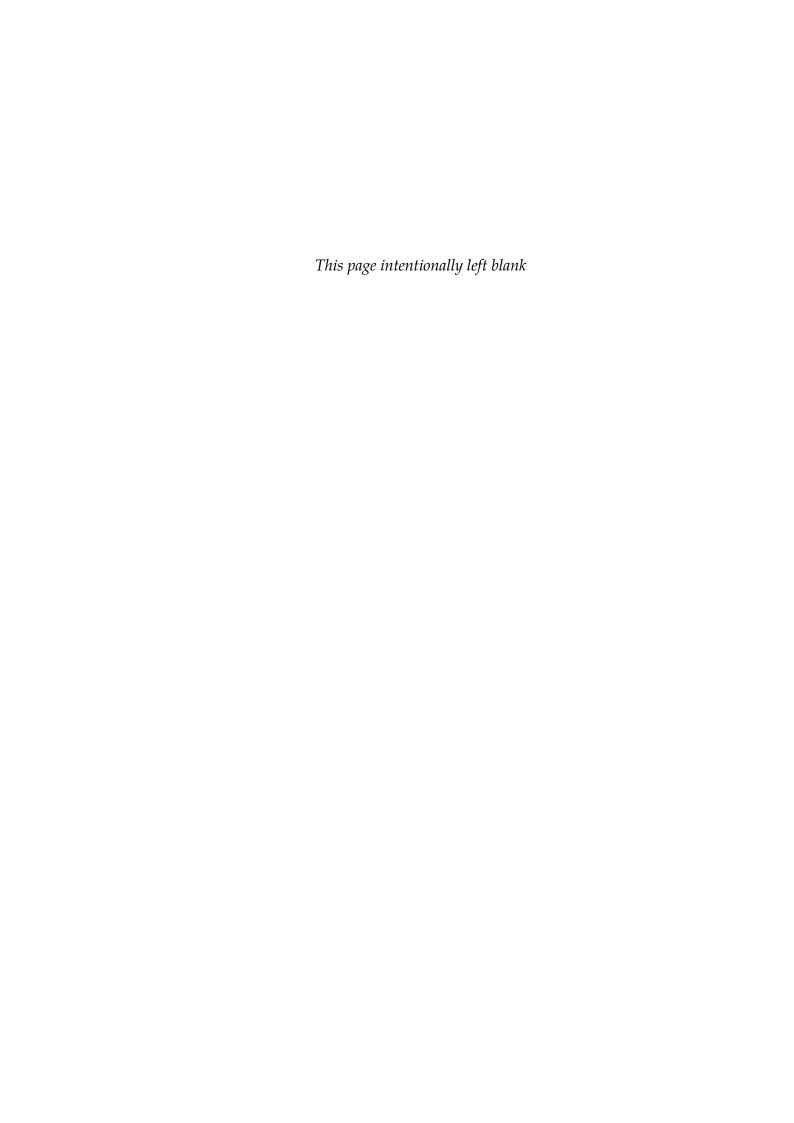


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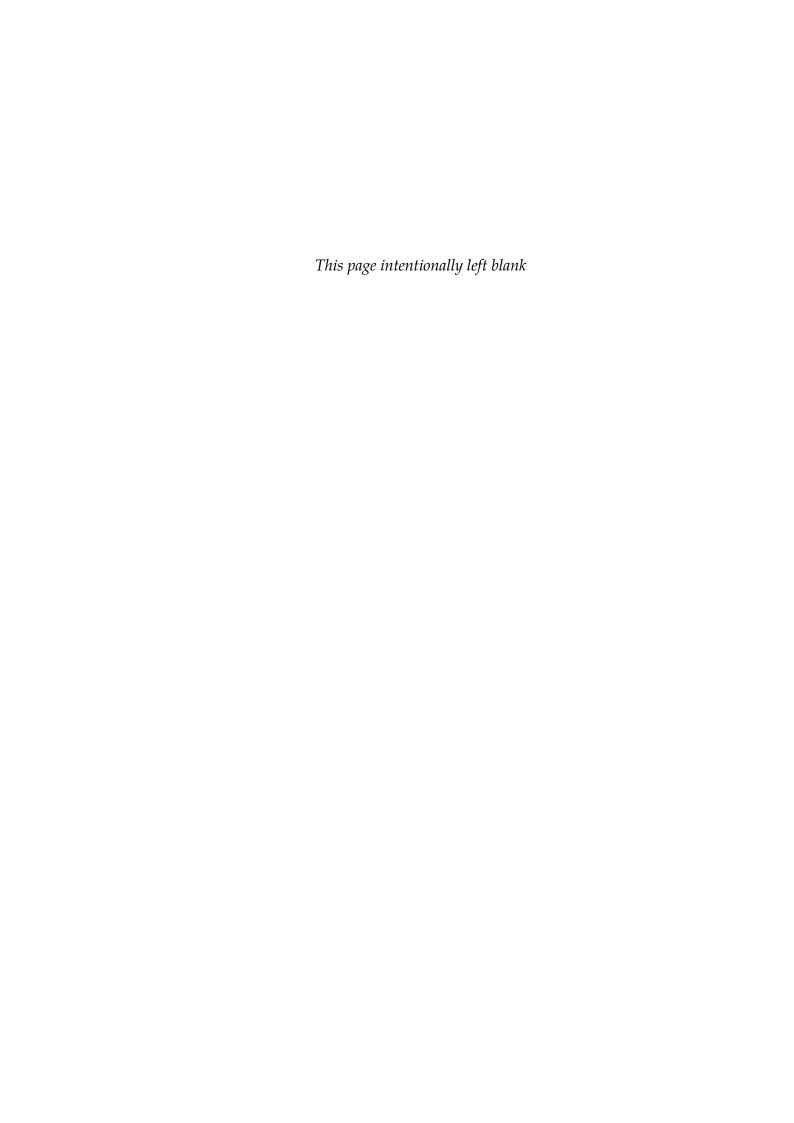
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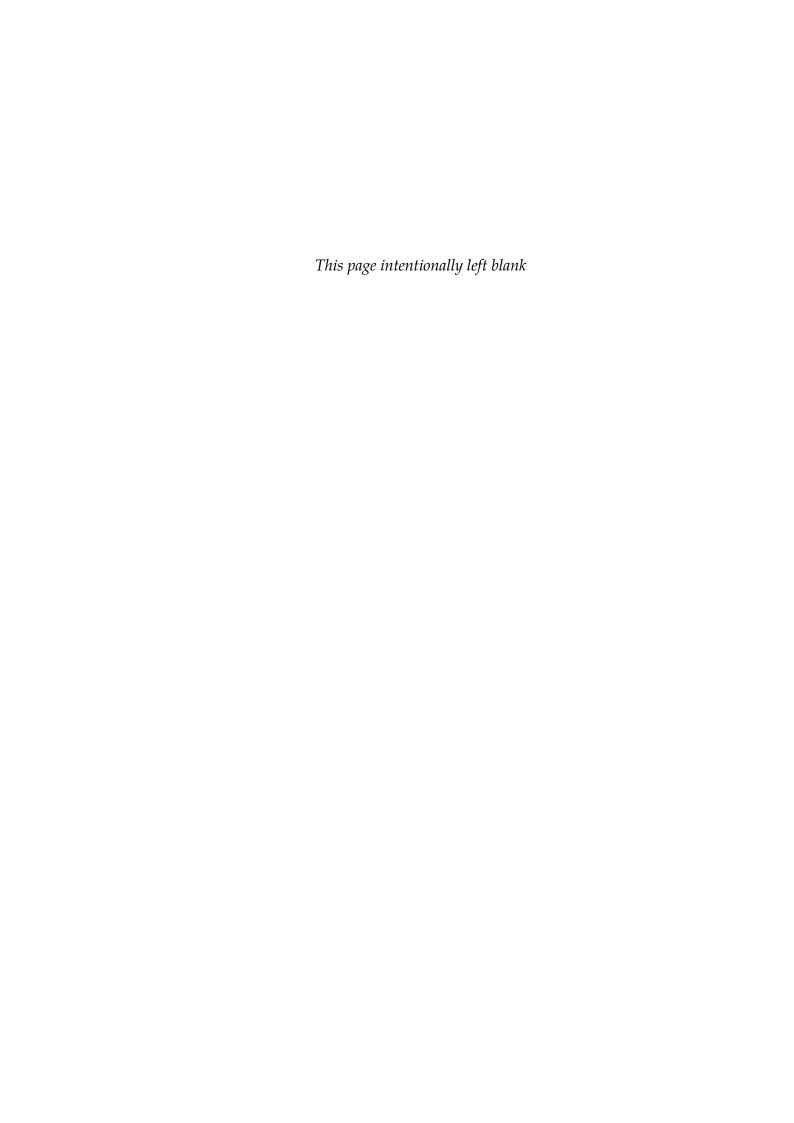
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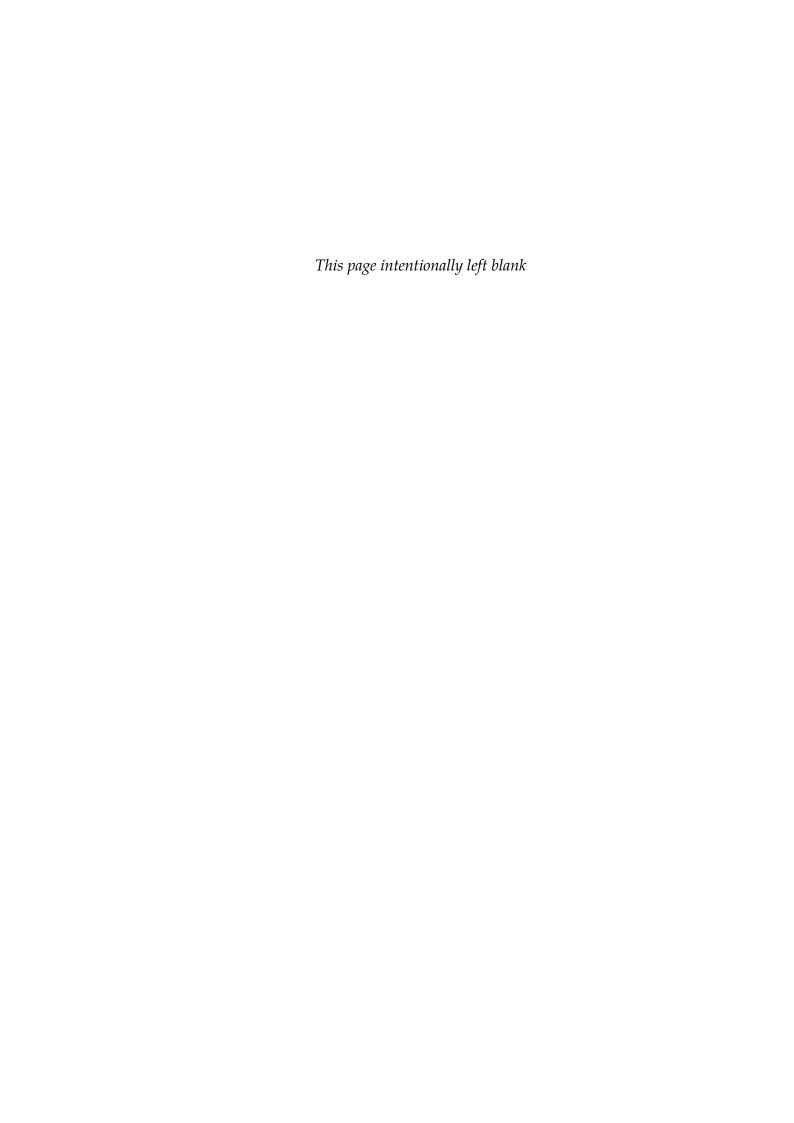


## Listings

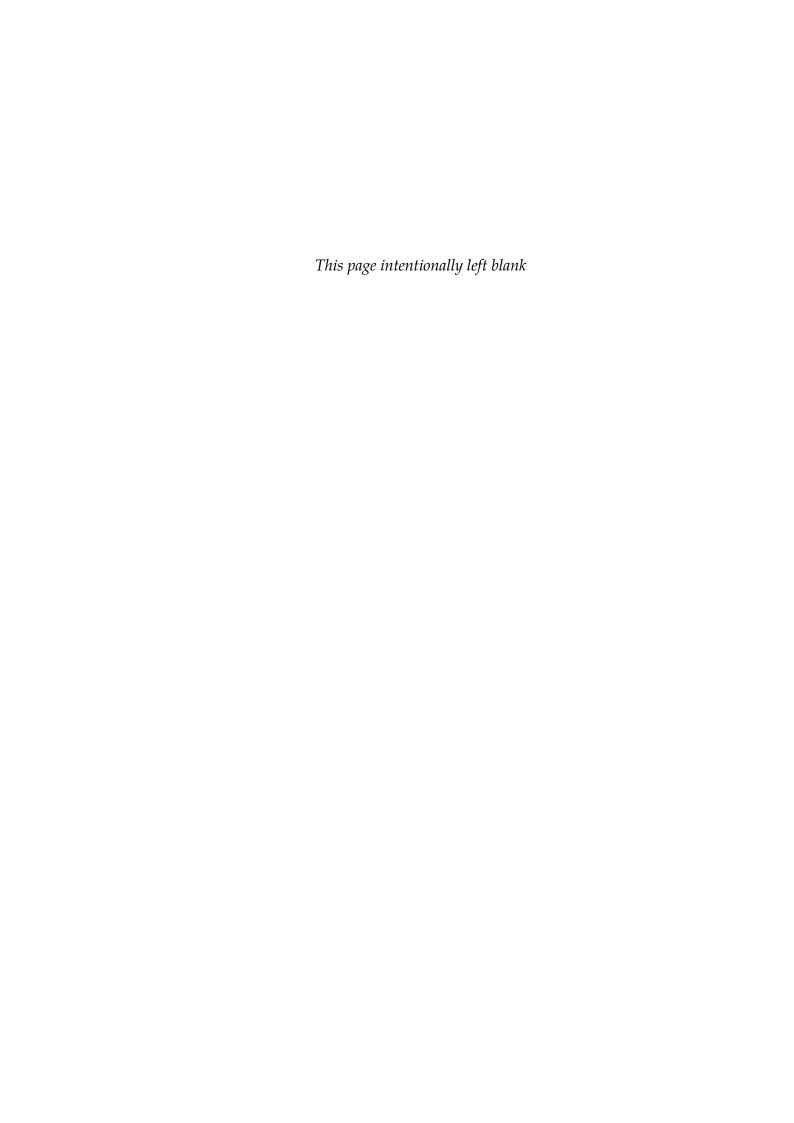


## Acronyms

**KKT** Karush-Kuhn-Tucker. 1



### Todo list



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

$$a^2 + b^2 = c^2, (1.2.1)$$

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

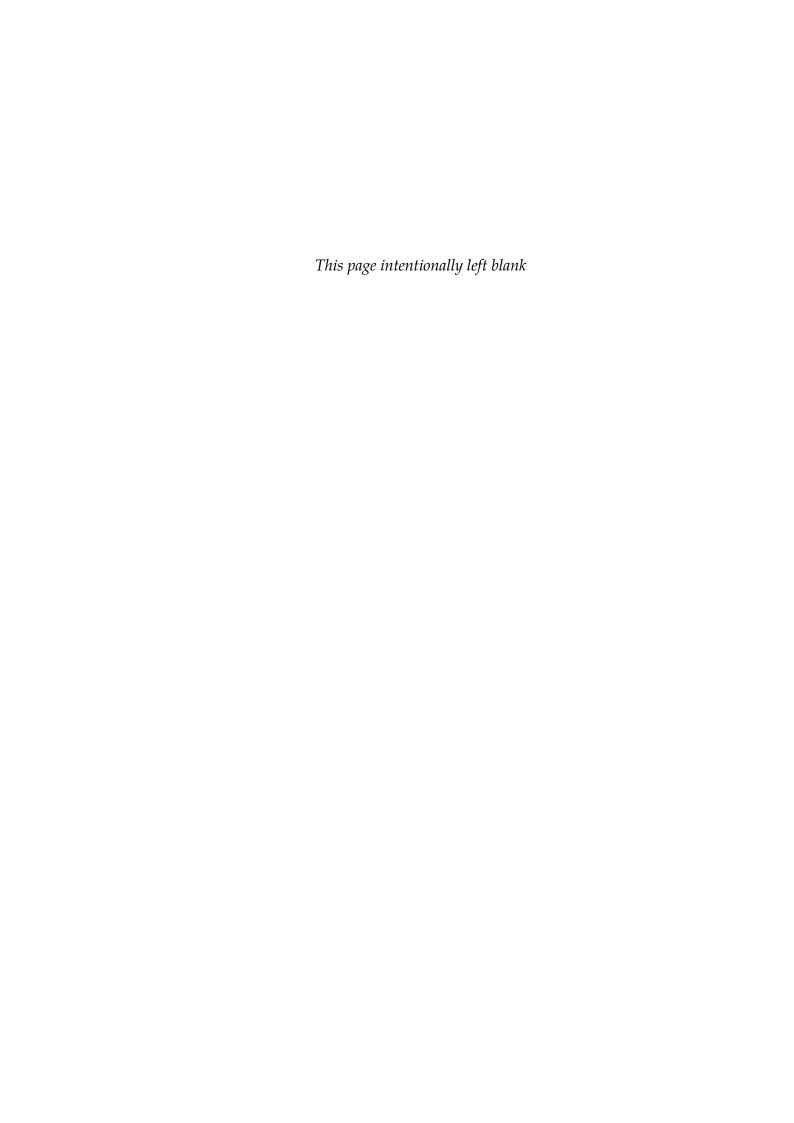
For example, to refer to Figure 1.1, I only typed \cref{fig:rectangle} (without writing explicitly Figure). If you want several references simultaneously, just separate them with commas in a single \cref command.

#### 1.3 Glossaries

In the file utils/glossary.tex, put your acronyms and glossaries entries. The accronyms will be displayed entirely at their first use. For example, you might need the <code>Karush-Kuhn-Tucker</code> (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.



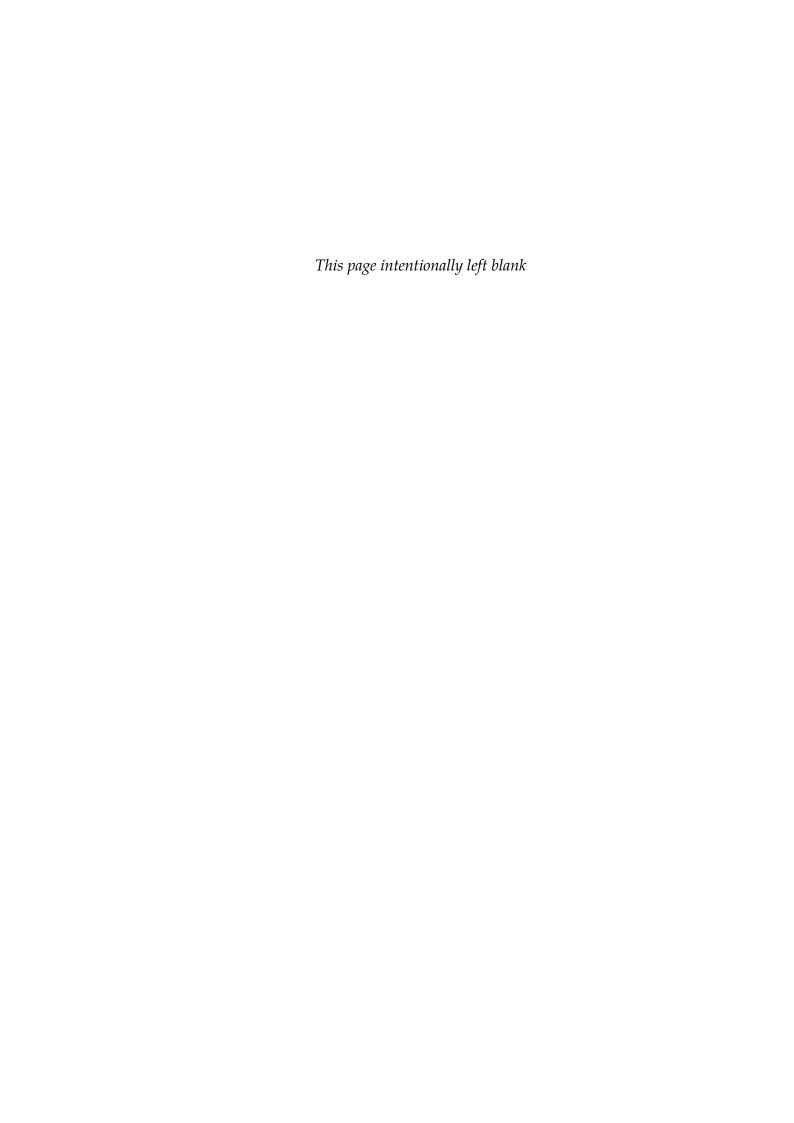
Conclusion and future research directions

#### 2.1 Conclusion

This is the conclusion.

### 2.2 Future research directions

This is the future research directions.



## Bibliography

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

