UNIVERSITY NAME

DOCTORAL THESIS

Thesis Title

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*A thesis submitted in fulfillment of the requirements
for the degree of Doctor of Philosophy*

in the

Research Group Name
Department or School Name

April 2, 2021

"Thanks to my solid academic training, today I can write hundreds of words on virtually any topic without possessing a shred of information, which is how I got a good job in journalism."

Dave Barry

UNIVERSITY NAME

Abstract

Faculty Name
Department or School Name

Doctor of Philosophy

Thesis Title

by John SMITH

The Thesis Abstract is written here (and usually kept to just this page). The page is kept centered vertically so can expand into the blank space above the title too. . .

Acknowledgements

The acknowledgments and the people to thank go here, don't forget to include your project advisor...

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For/Dedicated to/To my...

Chapter 1

Introduction

1.1 Model-based System Engineering and the HILECOP methodology

- present the principles of Model-based System Engineering
- present the context of neuroprotheses and the need for a safe design of digital circuits
- present the HILECOP methodology

1.2 Verifying the HILECOP methodology

- RESEARCH QUESTION (A.K.A THE PROBLEM):

  > CAN WE PROVE THE HILECOP MODEL-TO-TEXT
  >
  > TRANSFORMATION IS SEMANTIC-PRESERVING?

- ADDITIONAL QUESTIONS:

  + How do we prove that?
  + What are the similarities with compiler verification?
  + What are the specificities?

- present the task motivation: the creation of safe digital circuits; first step, the behavior of the input model must be preserved in the output VHDL program

- present the model-to-text transformation with more details (but not too much since a whole chapter will be dedicated to it)

➜ "inspired by the work on compiler verification, we had an idea about how to prove that the transformation is semantic-preserving, and which steps to follow".

Then, present the structure of the memoir and the content of the different chapters. The structure of the memoir follows the different steps necessary to establish the proof of semantic preservation. Each chapter corresponds to a step.

Bibliography

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