

AORTAGEOMRECON SOFTWARE R&D WITH  
ASSURANCE CASES STUDY

AORTA GEOMETRY RECONSTRUCTION SOFTWARE  
RESEARCH AND DEVELOPMENT WITH ASSURANCE CASES  
STUDY

BY  
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A REPORT  
SUBMITTED TO THE DEPARTMENT OF COMPUTING AND SOFTWARE  
AND THE SCHOOL OF GRADUATE STUDIES  
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FOR THE DEGREE OF  
MASTERS OF ENGINEERING

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Masters of Engineering (2023)  
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McMaster University  
Hamilton, Ontario, Canada

TITLE: Aorta Geometry Reconstruction Software Research and  
Development with Assurance Cases study

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# Abstract

Abstract here (no more than 300 words)

*Your Dedication*  
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# Acknowledgements

Acknowledgements go here.

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# List of Tables

# Notation, Definitions, and Abbreviations

## Notation

$A \leq B$       A is less than or equal to B

## Definitions

**Challenge**      With respect to video games, a challenge is a set of goals presented to the player that they are tasks with completing; challenges can test a variety of player skills, including accuracy, logical reasoning, and creative problem solving

## Abbreviations

**AI**      Artificial intelligence

# Declaration of Academic Achievement

The student will declare his/her research contribution and, as appropriate, those of colleagues or other contributors to the contents of the thesis.

# Chapter 1

## Introduction

Every thesis needs an introductory chapter

While you're here, you need to go into `definitions.tex` to set all the information needed for the front matter (e.g. title, author) and page header/footer.

You will also find the School of Graduate Studies' preparation guide (August 2021) for theses and reports. I would give it a quick read so you know what's expected.

### 1.1 Objective

### 1.2 Background

### 1.3 Problem Statement

## Chapter 2

# AortaGeomRecon Research and Development

### 2.1 Existing Methods

### 2.2 3D Slicer Extension Development

### 2.3 Segmentation Algorithm

This is a sample chapter

If you need to use quotes, type it “like this”.

## 2.4 GitHub and Workflows

## 2.5 Referencing

These are some sample references to GAMYGDALA (Popescu et al., 2014) from the `references.bib` file and state effects of cognition (Hudlicka, 2002) from the `references_another.bib` file. These references are not in the same `.bib` file.





## Chapter 3

# Assurance Cases and Selected Evidence for AortaGeomRecon

### 3.1 Scope Determination

### 3.2 Assurance Case Development

### 3.3 Software Rerequirements Specification Development

### 3.4 Design Document Development

### 3.5 Test Case Development

### 3.6 Algorithm Review

If you need to use quotes, type it “like this”.

## 3.7 Referencing

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# Chapter 4

# Conclusion

Every thesis also needs a concluding chapter

# Appendix A

## Your Appendix

Your appendix goes here.

# Appendix B

## Long Tables

This appendix demonstrates the use of a long table that spans multiple pages.

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Adrian Popescu, Joost Broekens, and Maarten van Someren. 2014. GAMYGDALA: An emotion engine for games. *IEEE Transactions on Affective Computing* 5, 1 (2014), 32–44.