

Debugging Problems

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the degree of MAI in Computer Engineering.

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1 Acronyms

2 Introduction

This is a brief description of the project. It will also have a guide to the repository

2.1 Context

2.2 Goals

2.3 Outcome

2.4 Evaluation Metrics

2.5 Structure of the Dissertation

3 Background

This will dicuss the need for the project and similar projects that have been done in the past

3.1 Literature Review

Literature review of both debugging, teaching debugging and LLMs

3.2 Summary of LLMs

4 Design and Implementation

This will discuss the design and implementation of the project. This will include a diagram at the beginning showing the heirarchy of the project.

4.1 Design Overview

4.2 Ollama

4.3 Code generation

4.4 Test case generation

4.5 Bug Insertion

4.5.1 LLM Bug Insertion

4.5.2 AST Bug Insertion

5 Testing and Evaluation

This will discuss the testing of the project which will show the improvement of the project over time. This will also include an evaluation of the final state of the project.

6 Conclusion

This will briefly summarise the project and discuss the future of the project.

7 References

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