Prometheus Final Report Outline
ECSE 499: Honours Thesis II

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Abstract

- Summarize the entire thesis.

Acknowledgments

- Mention the contributions of other undergraduate students to the project.

1 Introduction

- Introduce the sections to be covered.

2 Background

- Describe the Prometheus AI layers, with an emphasis on the KNN and ES.

- Address the comments provided on last semester's report.

- Expand on some of the new theory provided in the Knowledge Nodes doc.

3 Problem

- Describe the project requirements (creating and supervising the creation of Prometheus, with an emphasis on the KNN and ES).

4 Design

- Describe the major design criteria (efficiency, OOP, readability, documentation, testability).

- Expand on the OOP criterion by describing fundamental (SOLID) principles like the Liskov substitution principle, dependency inversion, etc.

- Expand on the testability criterion by showing the necessity of unit testing and behavior-driven development (BDD).

5 Implementation

- Describe how each of the previous design criteria were implemented in Prometheus.

- Describe the overall code structure (packages and Guice modules).

- Explain the use of the major libraries used (Google Guice, Mockito, TestNG and Apache Commons Lang 3).

6 Results & Tests

- Describe the unit tests.

- Describe the integration tests.

7 Impact on Society and the Environment

- Describe possible impact areas (safety, risk, environmental and societal benefits).

8 Conclusion

- Summarize accomplishments of the thesis.

- Discuss some insights (people/time management and technical debt).

- Discuss possible future extensions to the project.