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# TEST SCENARIO GENERATION BASED ON REQUIREMENTS SPECIFICATION

A Dissertation By

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## Abstract

The Software Requirements Specification (SRS) document is the most detailed and influential document in the software development process, this information is highly rich in content and is contained with confidential data. All subsequent steps during the process of development are decisive by this document. The significance of the document is that it is modelled for a clear depiction of the proposed system's features as requirements which can be referred by the project team to identify all tasks in relation to deliver the end product in accordance to their respective requirements.

Testing is a validation activity that if performed in order to ensure the conformance of software systems with respect to their functional and non-functional requirements and specifications. The assurance of the quality of the product is supported by every requirement being tested. The failure of a test case is often mapped with the software that was written for the requirement offering traceability of a defect.

There is a growing attentiveness given to Machine Learning approaches for the automation of various tasks. As such there are approaches to automate many processes in the software testing cycle. The challenge in the automation process is it requires human intelligence to interpret the required output. The decision to use supervised text classification techniques are to translate the requirement that are in natural language to a logical format that can be validated and generates test scenarios from them.

This research hereby intends to define the significance of the requirements specified in the requirements specification document of software products and facilitate an automating the process for the of creation of scenarios to derive test cases in the software testing cycle, this will prove to improve end-to-end testing by identifying the right test scenarios.

Keywords: Machine learning, Supervised learning, Classification algorithms