



INFORMATICS  
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In Collaboration with

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**Automated Unit Test Case Generation for TypeScript**

A Dissertation by

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## **ABSTRACT**

This research project focuses on automating test case generation for TypeScript code using machine learning techniques and code analysis. The manual process of creating test cases for TypeScript components is time-consuming and error-prone, leading to inefficiencies in software testing. By leveraging machine learning algorithms and analysing a large corpus of TypeScript code, we propose a tool that can automatically generate relevant and comprehensive test cases. The aim is to enhance the efficiency and effectiveness of testing in TypeScript projects, improving code quality and reliability. The findings of this research contribute to the field of software testing by providing a valuable tool for automated test case generation in TypeScript development.

Keywords: TypeScript, automated test case generation, machine learning, code analysis, software testing, deep learning