Impact of AI on Software Quality Assurance and Testing Jobs

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Abstract

The adoption of Large Language Models (LLMs) in software quality assurance is driving significant changes in testing practices and professional roles. This paper explores the current applications of LLMs in test case generation, bug analysis, and program repair, assessing their technical performance and impact on human testers. While LLMs can automate 40-55% of routine testing tasks, they serve best as augmentative tools rather than full replacements. As software testing shifts toward strategic oversight, professionals must develop AI literacy and prompt engineering skills. This study provides both theoretical insights and practical implementations to support the integration of LLMs in quality assurance.

Keywords

Large Language Models, Test Case Generation, Unit Testing, System Testing.