

CodeT5 Edit Distance Minimization and Semantic Preservation in QuixBugs Repairs

Assignee Research

June 8, 2026

Abstract

This report synthesises findings from 9 peer-reviewed papers addressing the following research question: To what extent does minimizing edit distance in CodeT5-generated repairs impact the semantic preservation rate on the QuixBugs dataset compared to standard fine-tuning approaches. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 4.0/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: PAFT: Preservation Aware Fine-Tuning for Minimal-Edit Program Repair. Research question: To what extent does minimizing edit distance in CodeT5-generated repairs impact the semantic preservation rate on the QuixBugs dataset compared to standard fine-tuning approaches?.

2 Methodology

Systematic literature search across multiple databases yielded 9 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 4.0/10.

3 Results

9 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 4.0/10.

4 Limitations

This report is a machine-generated literature synthesis and does not constitute original research. Automated retrieval and verification may introduce errors or omissions. Review scores reflect automated assessment, not human peer review. Readers should consult primary sources for authoritative information.

References

- <http://arxiv.org/abs/2309.14760v1>
- <http://arxiv.org/abs/2111.03922v1>
- <http://arxiv.org/abs/2604.03113v2>