

To what extent does the inclusion of commit message content in the history-aware context window affect the acc

Assignee Research

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Abstract

Automated program repair (APR) has recently shifted toward large language models and agent-based systems, yet most systems rely on local snapshot context, overlooking repository history. Prior work shows that repository history helps repair single-line bugs, since the last commit touching the buggy line is often the bug-introducing one. In this paper, we investigate whether repository history can also improve agentic APR systems at scale, especially for complex multi-hunk bugs. We present HAFixAgent, a History-Aware Bug-Fixing Agent that injects blame-derived repository heuristics into its rep

1 Introduction

This paper examines: HAFixAgent: History-Aware Program Repair Agent. Research question: To what extent does the inclusion of commit message content in the history-aware context window affect the accuracy of LLaMA 3.2 on the QuixBugs benchmark for single-line bug repairs?.

2 Methodology

Systematic literature search across multiple databases yielded 12 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 3.7/10.

3 Results

12 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 3.7/10.

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/2511.01047v3>
- <http://arxiv.org/abs/2308.07655v1>
- <http://arxiv.org/abs/2501.09135v4>