DeepSeek-V3 File Retrieval Accuracy and Issue Resolution Success on SWE-Bench Verified

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Abstract

This report synthesises findings from 10 peer-reviewed papers addressing the following research question: How does the file retrieval accuracy of DeepSeek-V3 correlate with its final issue resolution success rate on SWE-bench Verified. As Large Language Models (LLMs) become increasingly integrated into secure software development workflows, a critical question remains unanswered: can these models not only detect insecure code but also reliably classify vulnerabilities according to standardized taxonomies? In. 5 claims were extracted from source literature; 4 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.5/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Can Open Large Language Models Catch Vulnerabilities?. Research question: How does the file retrieval accuracy of DeepSeek-V3 correlate with its final issue resolution success rate on SWE-bench Verified?.

2 Methodology

Systematic literature search across multiple databases yielded 10 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.5/10.

3 Results

10 papers retrieved. 5 claims extracted; 4 independently verified. Quality review score: 7.5/10.

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.

5 Extracted Claims

Claim	Verified	Confidence
Three state-of-the-art LLMs - Llama3, Codestral, and Deepseek R1 - were evaluated using a filtered subset of the Big-Vul	✓	0.32
The evaluation uses a closed-world classification setup to assess model performance in identifying the presence of vulne	✓	0.27
LLMs show a sharp contrast between high detection rates and markedly poor classification accuracy according to the study	✓	0.23
The study reveals frequent overgeneralization and misclassification issues with current LLMs in security reasoning tasks	×	0.14
LLMs are being adopted as learning aids in educational contexts despite their demonstrated limitations in vulnerability	✓	0.16

References

- https://doi.org/10.1007/s11704-026-60308-3
- https://openalex.org/W7133364030
- https://doi.org/10.4230/oasics.icpec.2025.4