CodeT5 Performance on CWE-200 Vulnerability Detection: Domain-Specific vs. General-Purpose Pretraining

Assignee Research

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Abstract

This report synthesises findings from 13 peer-reviewed papers addressing the following research question: How does the performance of CodeT5 models pretrained on domain-specific code datasets compare to those pretrained on general-purpose code when evaluated on the CWE-200 cross-language vulnerability. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 5.3/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: LLaVul: A Multimodal LLM for Interpretable Vulnerability Reasoning about Source Code. Research question: How does the performance of CodeT5 models pretrained on domain-specific code datasets compare to those pretrained on general-purpose code when evaluated on the CWE-200 cross-language vulnerability detection benchmark?.

2 Methodology

Systematic literature search across multiple databases yielded 13 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 5.3/10.

3 Results

13 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 5.3/10.

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/2504.16584v1
- http://arxiv.org/abs/2509.17337v1
- http://arxiv.org/abs/2512.23214v1