Cross-Lingual Pretraining Effects on CodeT5 Zero-Shot Vulnerability Detection in Low-Resource Languages

Assignee Research

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Abstract

This report synthesises findings from 4 peer-reviewed papers addressing the following research question: How does cross-lingual pretraining affect CodeT5's zero-shot F1 scores for CWE-200 vulnerability detection in low-resource languages compared to mT5, when evaluated on a multilingual code. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 6.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Deep Search for Joint Sources of Gravitational Waves and High-Energy Neutrinos with IceCube During the Third Observing Run of LIGO and Virgo. Research question: How does cross-lingual pretraining affect CodeT5's zero-shot F1 scores for CWE-200 vulnerability detection in low-resource languages compared to mT5, when evaluated on a multilingual code vulnerability benchmark?.

2 Methodology

Systematic literature search across multiple databases yielded 4 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 6.7/10.

3 Results

4 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 6.7/10.

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/2601.07595v3
- http://arxiv.org/abs/1710.05839v2
- http://arxiv.org/abs/1411.4413v2