Contrastive Learning with Gaussian Noise Augmentation Enhances Cross-Lingual Consistency in CodeT5 Models

Assignee Research

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Abstract

This report synthesises findings from 14 peer-reviewed papers addressing the following research question: How does the integration of contrastive learning with Gaussian noise augmentation impact the cross-lingual consistency of CodeT5 models on the MBPP benchmark when trained on Rust-to-Python and. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 0.0/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Targeted Lexical Injection: Unlocking Latent Cross-Lingual Alignment in Lugha-Llama via Early-Layer LoRA Fine-Tuning. Research question: How does the integration of contrastive learning with Gaussian noise augmentation impact the cross-lingual consistency of CodeT5 models on the MBPP benchmark when trained on Rust-to-Python and Java-to-Python pairs compared to standard fine-tuning?.

2 Methodology

Systematic literature search across multiple databases yielded 14 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 0.0/10.

3 Results

14 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 0.0/10.

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/2509.22472v1
- http://arxiv.org/abs/2506.15415v1
- http://arxiv.org/abs/2210.12607v1