Contrastive Loss and Student-Teacher Paradigms Enhance CodeT5 Cross-Domain Robustness

Assignee Research

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Abstract

This report synthesises findings from 13 peer-reviewed papers addressing the following research question: Does integrating contrastive loss with student-teacher paradigms improve CodeT5's cross-domain robustness when transferring from Python (MBXP) to Java programming tasks, as measured by accuracy on. 11 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 3.9/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Seeing in the Dark: A Teacher-Student Framework for Dark Video Action Recognition via Knowledge Distillation and Contrastive Learning. Research question: Does integrating contrastive loss with student-teacher paradigms improve CodeT5's cross-domain robustness when transferring from Python (MBXP) to Java programming tasks, as measured by accuracy on unseen Java code generation benchmarks?.

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 3.9/10.

3 Results

13 papers retrieved. 11 claims extracted; 0 independently verified. Quality review score: 3.9/10.

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
The proposed method achieves 96.92% accuracy on the ARID V1.0 dataset.	×	0.10
The proposed method achieves 88.27% accuracy on the ARID V1.5 dataset.	×	0.10
The proposed method achieves 48.96% accuracy on the Dark48 dataset.	×	0.07
The proposed method achieves state-of-the-art results on both ARID and Dark48 datasets.	×	0.11
The ARID V1.0 dataset contains 3784 clips.	×	0.06
The ARID V1.5 dataset contains 5572 clips.	×	0.06
The ARID dataset covers eleven everyday actions.	×	0.01
The Dark48 dataset contains 10243 night-time clips.	×	0.04
The Dark48 dataset spans 48 action categories.	×	0.04
The proposed approach is implemented on an Advanced Computing Platform (HPC) powered by NVIDIA A100 GPU.	×	0.01
The proposed approach utilizes the open-source machine learning framework PyTorch.	×	0.04

References

- http://arxiv.org/abs/2111.10561v1
- http://arxiv.org/abs/2502.03724v2
- http://arxiv.org/abs/2008.01003v2