Semantics-Guided Adversarial Training Robustness Gains in Large-Scale Code Generation Models

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Abstract

This report synthesises findings from 8 peer-reviewed papers addressing the following research question: What is the robustness gain (measured by adversarial accuracy) of semantics-guided adversarial training over standard training when scaling to larger transformer models like Llama-2 in code. Predicting the trajectories of surrounding objects is a critical task for self-driving vehicles and many other autonomous systems. Recent works demonstrate that adversarial attacks on trajectory prediction, where small crafted perturbations are introduced to history. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 6.0/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Semi-supervised Semantics-guided Adversarial Training for Trajectory Prediction. Research question: What is the robustness gain (measured by adversarial accuracy) of semantics-guided adversarial training over standard training when scaling to larger transformer models like Llama-2 in code generation tasks evaluated on HumanEval?.

2 Methodology

Systematic literature search across multiple databases yielded 8 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 6.0/10.

3 Results

8 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 6.0/10.

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/2205.14230v2
- http://arxiv.org/abs/2010.01736v2
- http://arxiv.org/abs/2407.15549v3