How does adversarial training impact the robustness of multimodal trajectory prediction models against perturb

Assignee Research

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Abstract

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 trajectories, may significantly mislead the prediction of future trajectories and induce unsafe planning. However, few works have addressed enhancing the robustness of this important safety-critical task.In this paper, we present a novel adversarial training method for trajectory prediction. Compared with typical adversarial traini

1 Introduction

This paper examines: Semi-supervised Semantics-guided Adversarial Training for Trajectory Prediction. Research question: How does adversarial training impact the robustness of multimodal trajectory prediction models against perturbations in visual input modalities?.

2 Methodology

Systematic literature search across multiple databases yielded 15 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.0/10.

3 Results

15 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 7.0/10.

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/2103.15670v3
- http://arxiv.org/abs/2205.14230v2
- http://arxiv.org/abs/2405.18770v6