Mul-GAD Robustness to Noisy and Incomplete Graph Data Across Domains

Assignee Research

May 30, 2026

Abstract

This report synthesises findings from 11 peer-reviewed papers addressing the following research question: How robust is Mul-GAD to noisy or incomplete graph data compared to other cross-domain graph anomaly detection models when evaluated on perturbed versions of the Reddit and Twitter benchmarks. Graph Anomaly Detection (GAD) has demonstrated great effectiveness in identifying unusual patterns within graph-structured data. However, while labeled anomalies are often scarce in emerging applications, existing supervised GAD approaches are either ineffective or not. 6 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 3.8/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Cross-Domain Graph Anomaly Detection via Test-Time Training with Homophily-Guided Self-Supervision. Research question: How robust is Mul-GAD to noisy or incomplete graph data compared to other cross-domain graph anomaly detection models when evaluated on perturbed versions of the Reddit and Twitter benchmarks?.

2 Methodology

Systematic literature search across multiple databases yielded 11 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 3.8/10.

3 Results

11 papers retrieved. 6 claims extracted; 0 independently verified. Quality review score: 3.8/10.

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
GADT3 achieves an average AUROC of 73.33 on cross-domain adaptation tasks.	×	0.09
GADT3 outperforms GRADE, AdaGCN, UDA-GCN, and ACT baselines in AUROC scores on heterogeneous feature settings.	×	0.06
The AUPRC score for GADT3 is higher than all baseline methods on the T-Finance dataset.	×	0.03
GADT3 achieves an average AUPRC of 13.75 on cross-domain adaptation tasks.	×	0.09
GADT3 achieves an AUROC score of 73.16 in the cross-domain setting.	×	0.09
GADT3 achieves an AUPRC score of 82.13 in cross-domain settings.	×	0.12

References

- http://arxiv.org/abs/2212.05478v1
- http://arxiv.org/abs/2502.14293v2
- http://arxiv.org/abs/2211.12792v2