Self-Supervised Contrastive Learning Scaling in Cross-Domain Graph Anomaly Detection

Assignee Research

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Abstract

This report synthesises findings from 9 peer-reviewed papers addressing the following research question: How do self-supervised contrastive learning approaches scale in terms of AUC-ROC performance when applied to cross-domain graph anomaly detection tasks with varying levels of heterophily. 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. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 4.3/10. 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 do self-supervised contrastive learning approaches scale in terms of AUC-ROC performance when applied to cross-domain graph anomaly detection tasks with varying levels of heterophily?.

2 Methodology

Systematic literature search across multiple databases yielded 9 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 4.3/10.

3 Results

9 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 4.3/10.

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/2305.02496v1
- http://arxiv.org/abs/2502.14293v2
- http://arxiv.org/abs/2103.00113v2