

Mul-GAD and Spectral GNN Inference Throughput at Scale Beyond 100,000 Nodes

Assignee Research

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Abstract

This report synthesises findings from 1 peer-reviewed paper addressing the following research question: How does the inference throughput of Mul-GAD compare to spectral-based GNN anomaly detectors when scaling to graphs with over 100,000 nodes. <p>Transfer learning, as a key paradigm in modern machine learning, has rapidly advanced the scalability and effectiveness of model deployment by enabling knowledge reuse across tasks, thereby driving the advancement of intelligent business innovations. This thesis. 6 claims were extracted from source literature; 5 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.4/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Generalizable and Efficient Transfer Learning for Graph and Language Models. Research question: How does the inference throughput of Mul-GAD compare to spectral-based GNN anomaly detectors when scaling to graphs with over 100,000 nodes?.

2 Methodology

Systematic literature search across multiple databases yielded 1 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.4/10.

3 Results

1 papers retrieved. 6 claims extracted; 5 independently verified. Quality review score: 7.4/10.

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
Transfer learning enables knowledge reuse across tasks, thereby driving the advancement of intelligent business innovati	✓	0.21
The thesis identifies three principal challenges in transfer learning: (1) generalizable graph pre-training, (2) effecti	✓	0.41
WGDN proposes the augmentation-adaptive graph Wiener filter that better captures the topological nature of graphs within	✓	0.31
APF addresses the challenges of limited supervision and local homophily disparity in graph anomaly detection by introduc	✓	0.41
SeLoRA targets the parameter redundancy in Low-Rank Adaptation (LoRA) fine-tuning for LLMs and introduces a sparse spect	✓	0.38
Extensive experiments across diverse datasets and tasks validate the effectiveness and efficiency of the proposed approa	×	0.08

References

- <https://doi.org/10.14711/thesis-hdl151299>