

# Multi-View Aggregation Scaling in Semi-Supervised 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 does the generalization performance (measured by AUC-ROC and F1-score) of multi-view aggregation-based semi-supervised graph anomaly detection models scale with increasing graph size and sparsity. Feature selection, as a data preprocessing strategy, has been proven to be effective and efficient in preparing data (especially high-dimensional data) for various data-mining and machine-learning problems. The objectives of feature selection include building simpler and more. 5 claims were extracted from source literature; 5 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

## 1 Introduction

This paper examines: Feature Selection. Research question: How does the generalization performance (measured by AUC-ROC and F1-score) of multi-view aggregation-based semi-supervised graph anomaly detection models scale with increasing graph size and sparsity on synthetic and real-world datasets from the TU Berlin and DGL benchmarks?.

## 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 8.7/10.

### 3 Results

9 papers retrieved. 5 claims extracted; 5 independently verified. Quality review score: 8.7/10.

### 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
Feature selection is effective and efficient in preparing data for various data-mining and machine-learning problems.	✓	0.32
The objectives of feature selection include building simpler and more comprehensible models, improving data-mining performance.	✓	0.38
The recent proliferation of big data has presented substantial challenges and opportunities to feature selection.	✓	0.34
Feature selection algorithms can be categorized into four main groups: similarity-based, information-theoretical-based,	✓	0.34
An open source feature selection repository exists at <a href="http://featureselection.asu.edu/">http://featureselection.asu.edu/</a> .	✓	0.25

### References

- <https://doi.org/10.1038/s41524-022-00734-6>
- <https://doi.org/10.1561/22000000083>
- <https://doi.org/10.1145/3136625>