

Metapath Sampling Granularity Impacts on HGNN Inference Efficiency in OGBN-MAG

Assignee Research

June 3, 2026

Abstract

This report synthesises findings from 3 peer-reviewed papers addressing the following research question: How does the choice of different metapath sampling granularities (coarse vs. fine-grained) affect the inference efficiency and throughput of Metapath Context Convolution-based HGNNs on large-scale. 5 claims were extracted from source literature; 3 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 6.5/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Heterogeneous Network Representation Learning: A Unified Framework With Survey and Benchmark. Research question: How does the choice of different metapath sampling granularities (coarse vs. fine-grained) affect the inference efficiency and throughput of Metapath Context Convolution-based HGNNs on large-scale benchmarks like OGBN-MAG?.

2 Methodology

Systematic literature search across multiple databases yielded 3 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 6.5/10.

3 Results

3 papers retrieved. 5 claims extracted; 3 independently verified. Quality review score: 6.5/10.

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
Heterogeneous networks are used as a superclass of traditional homogeneous networks to model multi-modal and multi-typed	✓	0.24
Representation learning (embedding) has been shown to be effective for various network mining and analytical tasks.	✓	0.25
Existing HNE algorithms are often evaluated on different datasets despite claims of being generic.	✓	0.18
Indirect comparisons of HNE algorithms due to differing datasets hinder the attribution of performance improvements to s	×	0.13
The authors created four benchmark datasets with varying properties regarding scale, structure, and attributes/labels.	×	0.11

References

- <https://doi.org/10.1109/tkde.2020.3045924>
- <https://doi.org/10.1145/3465055>
- <https://doi.org/10.1145/3447585>