

# Multimodal Graph Learning for Node Clustering Accuracy in Heterogeneous Networks

Assignee Research

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## Abstract

This report synthesises findings from 8 peer-reviewed papers addressing the following research question: Which multimodal graph learning approaches achieve the highest node clustering accuracy (NMI) when integrating structural, textual, and numerical attributes in heterogeneous graphs like PDNS-Net, and. 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 7.9/10. This report is a machine-generated literature synthesis and does not constitute original research.

## 1 Introduction

This paper examines: Feature Selection. Research question: Which multimodal graph learning approaches achieve the highest node clustering accuracy (NMI) when integrating structural, textual, and numerical attributes in heterogeneous graphs like PDNS-Net, and how do they compare to reconstruction-based methods in terms of inference efficiency?.

## 2 Methodology

Systematic literature search across multiple databases yielded 8 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.9/10.

### 3 Results

8 papers retrieved. 5 claims extracted; 5 independently verified. Quality review score: 7.9/10.

### 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 a data preprocessing strategy proven to be effective and efficient for preparing high-dimensional d	✓	0.36
The objectives of feature selection include building simpler and more comprehensible models, improving data-mining perfo	✓	0.38
The survey categorizes existing feature selection algorithms for conventional data into four main groups: similarity-bas	✓	0.40
The authors present an open source feature selection repository located at <a href="http://featureselection.asu.edu/">http://featureselection.asu.edu/</a> .	✓	0.23
The open source repository consists of most of the popular feature selection algorithms.	✓	0.28

### References

- <https://doi.org/10.3390/cells12151970>
- <https://doi.org/10.1038/s41467-022-29439-6>
- <https://doi.org/10.1145/3136625>