

Prototype-Based vs. Traditional Embeddings in Federated Graph Learning Scalability

Assignee Research

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Abstract

This report synthesises findings from 9 peer-reviewed papers addressing the following research question: How do training loss trajectories and final accuracy differ between prototype-based and traditional embedding strategies in federated graph learning as the number of participating clients increases. Graph Neural Networks (GNNs) have experienced rapid advancements in recent years due to their ability to learn meaningful representations from graph data structures. However, in most real-world settings, such as financial transaction networks and healthcare networks, this data. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 3.8/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: OptimES: Optimizing Federated Learning Using Remote Embeddings for Graph Neural Networks. Research question: How do training loss trajectories and final accuracy differ between prototype-based and traditional embedding strategies in federated graph learning as the number of participating clients increases?.

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 3.8/10.

3 Results

9 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 3.8/10.

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/2506.02887v2>
- <http://arxiv.org/abs/2509.22922v1>
- <http://arxiv.org/abs/2311.14469v1>