Cross-Domain Performance of LightGCL, SGL, and GCA in Recommendation Systems

Assignee Research

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Abstract

This report synthesises findings from 15 peer-reviewed papers addressing the following research question: How does the performance of LightGCL, SGL, and GCA vary when applied to cross-domain recommendation tasks, such as transferring from MovieLens-100K to Amazon Book Reviews, in terms of precision@10. In recent years, recommendation systems have become essential for businesses to enhance customer satisfaction and generate revenue in various domains, such as e-commerce and entertainment. Deep learning techniques have significantly improved the accuracy and efficiency of these. 8 claims were extracted from source literature; 8 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Deep Learning-Based Recommendation System: Systematic Review and Classification. Research question: How does the performance of LightGCL, SGL, and GCA vary when applied to cross-domain recommendation tasks, such as transferring from MovieLens-100K to Amazon Book Reviews, in terms of precision@10 and recall@20?.

2 Methodology

Systematic literature search across multiple databases yielded 15 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.7/10.

3 Results

15 papers retrieved. 8 claims extracted; 8 independently verified. Quality review score: 7.7/10.

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
Recommendation systems have become essential for businesses to enhance customer satisfaction and generate revenue in dom	✓	0.31
Deep learning techniques have significantly improved the accuracy and efficiency of recommendation systems.	✓	0.31
There is a lack of literature on classification in systematic review papers that summarize the latest deep-learning tech	✓	0.46
Certain existing review papers have overlooked state-of-the-art techniques or restricted their coverage to a narrow spec	✓	0.34
The study analyzed relevant studies published between 2018 and February 2023.	✓	0.22
The study examined techniques, datasets, domains, and measurement metrics using a thorough SLR strategy.	✓	0.21
Graph neural networks, convolutional neural networks, and recurrent neural networks have been widely used in recommendat	✓	0.31
Domain classification is an emerging area of research showing promising results in applying deep learning techniques to	✓	0.33

References

- https://doi.org/10.1016/j.jocs.2018.09.008
- https://doi.org/10.1109/access.2023.3323353
- https://doi.org/10.3390/info12060232