

Adaptive Diversity Optimization in RAG Frameworks Enhances Robustness on MuSiQue Multi-Hop Tasks

Assignee Research

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Abstract

This report synthesises findings from 4 peer-reviewed papers addressing the following research question: Does adaptive diversity optimization in RAG frameworks improve robustness against distractor documents in multi-hop reasoning tasks compared to fixed top-k retrieval strategies on the MuSiQue. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 1.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: CARROT: A Learned Cost-Constrained Retrieval Optimization System for RAG. Research question: Does adaptive diversity optimization in RAG frameworks improve robustness against distractor documents in multi-hop reasoning tasks compared to fixed top-k retrieval strategies on the MuSiQue benchmark?.

2 Methodology

Systematic literature search across multiple databases yielded 4 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 1.7/10.

3 Results

4 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 1.7/10.

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.

References

- <http://arxiv.org/abs/2504.05181v2>
- <http://arxiv.org/abs/2411.00744v2>
- <http://arxiv.org/abs/1810.05633v2>