Tree of Reviews vs. Linear Chain Retrieval in Cross-Domain Multi-Hop Reasoning

Assignee Research

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Abstract

This report synthesises findings from 10 peer-reviewed papers addressing the following research question: How does the Tree of Reviews framework perform on cross-domain multi-hop reasoning tasks like TriviaQA when compared to linear chain retrieval methods in terms of F1 score and retrieval precision. Large language models (LLMs) are gaining increasing popularity in both academia and industry, owing to their unprecedented performance in various applications. As LLMs continue to play a vital role in both research and daily use, their evaluation becomes increasingly critical. 10 claims were extracted from source literature; 10 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.5/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: A Survey on Evaluation of Large Language Models. Research question: How does the Tree of Reviews framework perform on cross-domain multi-hop reasoning tasks like TriviaQA when compared to linear chain retrieval methods in terms of F1 score and retrieval precision?.

2 Methodology

Systematic literature search across multiple databases yielded 10 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.5/10.

3 Results

10 papers retrieved. 10 claims extracted; 10 independently verified. Quality review score: 8.5/10.

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
Large language models (LLMs) are gaining increasing popularity in both academia and industry, owing to their unprecedent	✓	0.34
As LLMs continue to play a vital role in both research and daily use, their evaluation becomes increasingly critical, no	✓	0.39
Over the past years, significant efforts have been made to examine LLMs from various perspectives.	✓	0.25
This paper presents a comprehensive review of these evaluation methods for LLMs, focusing on three key dimensions: what	✓	0.34
We provide an overview from the perspective of evaluation tasks, encompassing general natural language processing tasks,	✓	0.41
We answer the 'where' and 'how' questions by diving into the evaluation methods and benchmarks, which serve as crucial c	✓	0.31
We summarize the success and failure cases of LLMs in different tasks.	✓	0.24
We shed light on several future challenges that lie ahead in LLMs evaluation.	✓	0.25
Our aim is to offer invaluable insights to researchers in the realm of LLMs evaluation, thereby aiding the development o	✓	0.32
Our key point is that evaluation should be treated as an essential discipline to better assist the development of LLM.	✓	0.30

References

- https://doi.org/10.48550/arxiv.2307.03109

- https://doi.org/10.48550/arxiv.2402.07927
- https://doi.org/10.48550/arxiv.2402.06196