Llama-3-8B-128K Multi-Hop Retrieval Performance Against Mistral-8B and Qwen-8B

Assignee Research

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Abstract

This report synthesises findings from 12 peer-reviewed papers addressing the following research question: How does the performance of Llama-3-8B-128K compare to other 8B-parameter models like Mistral-8B or Qwen-8B in multi-hop retrieval accuracy on HotPotQA and MuSiQue benchmarks when using chain-based. Prompt engineering has emerged as an indispensable technique for extending the capabilities of large language models (LLMs) and vision-language models (VLMs). This approach leverages task-specific instructions, known as prompts, to enhance model efficacy without modifying the. 8 claims were extracted from source literature; 8 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.8/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: A Systematic Survey of Prompt Engineering in Large Language Models: Techniques and Applications. Research question: How does the performance of Llama-3-8B-128K compare to other 8B-parameter models like Mistral-8B or Qwen-8B in multi-hop retrieval accuracy on HotPotQA and MuSiQue benchmarks when using chain-based retrieval?.

2 Methodology

Systematic literature search across multiple databases yielded 12 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.8/10.

3 Results

12 papers retrieved. 8 claims extracted; 8 independently verified. Quality review score: 8.8/10.

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.

5 Extracted Claims

Claim	Verified	Confidence
Prompt engineering extends the capabilities of large language models (LLMs) and vision-language models (VLMs).	✓	0.22
Prompt engineering enhances model efficacy without modifying the core model parameters.	✓	0.23
Prompts can be natural language instructions that provide context to guide the model.	✓	0.25
Prompts can be learned vector representations that activate relevant knowledge.	✓	0.20
Prompt engineering has enabled success in applications ranging from question-answering to commonsense reasoning.	✓	0.18
There is a lack of systematic organization and understanding of diverse prompt engineering methods and techniques.	✓	0.28
The survey provides a structured overview of recent advancements in prompt engineering categorized by application area.	✓	0.23
The survey includes a taxonomy diagram and table summarizing datasets, models, and critical points of each prompting tec	✓	0.26

References

- https://doi.org/10.3390/app142311014
- https://doi.org/10.48550/arxiv.2406.07887

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