Llama-3-8B-128K Inference Efficiency vs. Mistral-7B and Falcon-40B in Real-Time Software Engineering Pipelines

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Abstract

This report synthesises findings from 13 peer-reviewed papers addressing the following research question: How does the inference efficiency (throughput, latency) of Llama-3-8B-128K compare to Mistral-7B and Falcon-40B when deployed in a real-time software engineering evaluation pipeline. We introduce Mistral 7B v0.1, a 7-billion-parameter language model engineered for superior performance and efficiency. Mistral 7B outperforms Llama 2 13B across all evaluated benchmarks, and Llama 1 34B in reasoning, mathematics, and code generation. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 3.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Mistral 7B. Research question: How does the inference efficiency (throughput, latency) of Llama-3-8B-128K compare to Mistral-7B and Falcon-40B when deployed in a real-time software engineering evaluation pipeline?.

2 Methodology

Systematic literature search across multiple databases yielded 13 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 3.7/10.

3 Results

13 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 3.7/10.

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/2601.02346v1
- http://arxiv.org/abs/2310.06825v1
- http://arxiv.org/abs/2509.25716v1