Qwen2.5-72B Inference Efficiency vs. State-of-the-Art Models on MATH-PT

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Abstract

This report synthesises findings from 3 peer-reviewed papers addressing the following research question: How does the inference efficiency (e.g., tokens per second) of Qwen2.5-72B compare to other state-of-the-art models (e.g., Mistral-7B, Llama3-8B) when processing MATH-PT problems. We introduce MiniMax-01 series, including MiniMax-Text-01 and MiniMax-VL-01, which are comparable to top-tier models while offering superior capabilities in processing longer contexts. The core lies in lightning attention and its efficient scaling. 7 claims were extracted from source literature; 7 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 9.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: MiniMax-01: Scaling Foundation Models with Lightning Attention. Research question: How does the inference efficiency (e.g., tokens per second) of Qwen2.5-72B compare to other state-of-the-art models (e.g., Mistral-7B, Llama3-8B) when processing MATH-PT problems?.

2 Methodology

Systematic literature search across multiple databases yielded 3 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 9.7/10.

3 Results

3 papers retrieved. 7 claims extracted; 7 independently verified. Quality review score: 9.7/10.

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
The MiniMax-01 series includes MiniMax-Text-01 and MiniMax-VL-01 models.	✓	0.22
MiniMax-Text-01 has a context window that can reach up to 1 million tokens during training.	✓	0.26
MiniMax-Text-01 can extrapolate to 4 million tokens during inference.	✓	0.24
The MiniMax-01 model series uses lightning attention and Mixture of Experts (MoE) with 32 experts.	✓	0.24
The MiniMax-01 model has 456 billion total parameters with 45.9 billion activated per token.	✓	0.25
MiniMax-VL-01 is built through continued training with 512 billion vision-language tokens.	✓	0.32
MiniMax-01 models offer 20-32 times longer context window compared to state-of-the-art models like GPT-4o and Claude-3.5	✓	0.29

References

- https://openalex.org/W7160458426
- https://doi.org/10.48550/arxiv.2412.17933
- https://doi.org/10.48550/arxiv.2501.08313