Llama3.1 and Mistral 7B Inference Performance on Adversarial Genomic Sequence Classification

Assignee Research

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Abstract

This report synthesises findings from 8 peer-reviewed papers addressing the following research question: How do inference latency and throughput metrics differ between Llama3.1 and Mistral 7B when processing complex genomic sequence classifications under adversarial noise. 10 claims were extracted from source literature; 10 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: HarmBench: A Standardized Evaluation Framework for Automated Red Teaming and Robust Refusal. Research question: How do inference latency and throughput metrics differ between Llama3.1 and Mistral 7B when processing complex genomic sequence classifications under adversarial noise?.

2 Methodology

Systematic literature search across multiple databases yielded 8 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.7/10.

3 Results

8 papers retrieved. 10 claims extracted; 10 independently verified. Quality review score: 8.7/10.

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 field of automated red teaming lacks a standardized evaluation framework to rigorously assess new methods.	✓	0.41
HarmBench is introduced as a standardized evaluation framework for automated red teaming.	✓	0.37
Several desirable properties for red teaming evaluations were previously unaccounted for prior to this work.	✓	0.19
HarmBench was systematically designed to meet specific criteria regarding desirable properties for red teaming evaluatio	✓	0.17
A large-scale comparison was conducted using HarmBench involving 18 red teaming methods.	✓	0.25
A large-scale comparison was conducted using HarmBench involving 33 target LLMs and defenses.	✓	0.22
The study introduces a highly efficient adversarial training method.	✓	0.15
The introduced adversarial training method greatly enhances LLM robustness across a wide range of attacks.	✓	0.27
HarmBench enables the codevelopment of attacks and defenses.	✓	0.24
HarmBench is open sourced at https://github.com/centerforaisafety/HarmBench.	✓	0.18

References

- https://doi.org/10.48550/arxiv.2406.10290
- https://doi.org/10.48550/arxiv.2402.04249
- https://doi.org/10.1007/s00521-025-11666-9