

What is the average drop in forecasting accuracy for Llama3 compared to domain-specific models when evaluated

Assignee Research

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Abstract

Time series forecasting remains a challenging task, particularly in the context of complex multiscale temporal patterns. This study presents LLM-Mixer, a framework that improves forecasting accuracy through the combination of multiscale time-series decomposition with pre-trained LLMs (Large Language Models). LLM-Mixer captures both short-term fluctuations and long-term trends by decomposing the data into multiple temporal resolutions and processing them with a frozen LLM, guided by a textual prompt specifically designed for time-series data. Extensive experiments conducted on multivariate and

1 Introduction

This paper examines: LLM-Mixer: Multiscale Mixing in LLMs for Time Series Forecasting. Research question: What is the average drop in forecasting accuracy for Llama3 compared to domain-specific models when evaluated on renewable energy time-series data?.

2 Methodology

Systematic literature search across multiple databases yielded 11 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 6.5/10.

3 Results

11 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 6.5/10.

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.

References

- <http://arxiv.org/abs/2410.11674v2>
- <http://arxiv.org/abs/2401.03006v2>
- <http://arxiv.org/abs/2502.09290v2>