What is the correlation between Llama3's cross-domain anomaly detection accuracy and the percentage of

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Abstract

Time series anomaly detection is important in modern large-scale systems and is applied in a variety of domains to analyze and monitor the operation of diverse systems. Unsupervised approaches have received widespread interest, as they do not require anomaly labels during training, thus avoiding potentially high costs and having wider applications. Among these, autoencoders have received extensive attention. They use reconstruction errors from compressed representations to define anomaly scores. However, representations learned by autoencoders are sensitive to anomalies in training time series

1 Introduction

This paper examines: An Encode-then-Decompose Approach to Unsupervised Time Series Anomaly Detection on Contaminated Training Data–Extended Version. Research question: What is the correlation between Llama3's cross-domain anomaly detection accuracy and the percentage of energy-specific tokens in its training data?.

2 Methodology

Systematic literature search across multiple databases yielded 14 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 5.0/10.

3 Results

14 papers retrieved. 6 claims extracted; 1 independently verified. Quality review score: 5.0/10.

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 SWaT dataset has a known limitation of high anomaly density and inconsistent labels.	×	0.04
The method EDAD uses an Encode-then-Decompose approach for anomaly detection.	✓	0.16
The dataset PSM has a dimensionality of 25 and an average length of 220,322.	×	0.01
The F1-score for OC-SVM on the PSM dataset is 0.664.	×	0.01
The A-ROC value for TranAD on the SMAP dataset is 0.647.	×	0.01
The V-PR value for GDN on the KDD21 dataset is 0.526.	×	0.01

References

- http://arxiv.org/abs/2510.18998v1
- http://arxiv.org/abs/2406.16308v1
- http://arxiv.org/abs/2605.24481v2