When fine-tuned on domain-specific security corpora, how do Llama3 and Code Llama 7B compare in few-shot (5-15

Assignee Research

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Abstract

We propose a meta learning framework for detecting anomalies in human language across diverse domains with limited labeled data. Anomalies in language ranging from spam and fake news to hate speech pose a major challenge due to their sparsity and variability. We treat anomaly detection as a few shot binary classification problem and leverage meta-learning to train models that generalize across tasks. Using datasets from domains such as SMS spam, COVID-19 fake news, and hate speech, we evaluate model generalization on unseen tasks with minimal labeled anomalies. Our method combines episodic tra

1 Introduction

This paper examines: Anomaly Detection in Human Language via Meta-Learning: A Few-Shot Approach. Research question: When fine-tuned on domain-specific security corpora, how do Llama3 and Code Llama 7B compare in few-shot (5-15 shots) code generation accuracy for secure implementation patterns across programming languages?.

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 5.6/10.

3 Results

13 papers retrieved. 5 claims extracted; 2 independently verified. Quality review score: 5.6/10.

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 paper proposes a few-shot approach to anomaly detection in human language using meta-learning.	✓	0.25
The method is evaluated on three datasets with performance measured using ROC-AUC and Average Precision metrics.	×	0.04
The anomaly detection problem is formalized as a one-vs-rest classification problem.	×	0.13
During meta-training, the method uses multiple datasets corresponding to different domains or anomaly detection tasks.	✓	0.17
The model is tested with k-shot adaptation where only a small number of labeled anomalies are available for training.	×	0.09

References

- http://arxiv.org/abs/2311.01767v2
- http://arxiv.org/abs/2303.12869v1
- http://arxiv.org/abs/2507.20019v1