Cross-Domain Adaptation with RAG for Robust Quantized Mistral 7B in Cyber-Physical Anomaly Detection

Assignee Research

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Abstract

This report synthesises findings from 4 peer-reviewed papers addressing the following research question: How does cross-domain adaptation using RAG techniques affect the robustness of quantized Mistral 7B in detecting anomalies in cyber-physical systems, as measured by accuracy degradation on unseen. 6 claims were extracted from source literature; 1 was independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 4.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Optimal Allocation of Interconnecting Links in Cyber-Physical Systems: Interdependence, Cascading Failures and Robustness. Research question: How does cross-domain adaptation using RAG techniques affect the robustness of quantized Mistral 7B in detecting anomalies in cyber-physical systems, as measured by accuracy degradation on unseen datasets?.

2 Methodology

Systematic literature search across multiple databases yielded 4 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 4.7/10.

3 Results

4 papers retrieved. 6 claims extracted; 1 independently verified. Quality review score: 4.7/10.

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 proposed method of regular inter-edge allocation improves the robustness of the system over the random allocation st	×	0.12
For a given expected value of inter-degree per node, it is better (in terms of robustness) to use bi-directional inter-l	×	0.13
For a given expected value of inter-degree per node, it is better (in terms of robustness) to deterministically allot ea	×	0.11
If the topologies of network A and network B are unknown, then the optimum inter-link allocation strategy is to allot ex	✓	0.27
Even if the statistical information regarding the networks is available, regular inter-edge allocation is still the best	×	0.05
Without knowing which nodes play a key role in preserving the connectivity of the networks, it is best to treat all node	×	0.04

References

- http://arxiv.org/abs/1910.14127v2
- http://arxiv.org/abs/1201.2698v2
- http://arxiv.org/abs/2310.06825v1