Dynamic Meta-Layer Aggregation vs. Federated Averaging in Byzantine-Robust Federated Learning

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Abstract

This report synthesises findings from 13 peer-reviewed papers addressing the following research question: How does dynamic meta-layer aggregation compare to traditional federated averaging in Byzantine robustness across different attack types (e.g., label flipping, noise injection, backdoor attacks) as. In this paper, we investigate the problem of distributed learning (DL) in the presence of Byzantine attacks. For this problem, various robust bounded aggregation (RBA) rules have been proposed at the central server to mitigate the impact of Byzantine attacks. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 5.8/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Coded Robust Aggregation for Distributed Learning under Byzantine Attacks. Research question: How does dynamic meta-layer aggregation compare to traditional federated averaging in Byzantine robustness across different attack types (e.g., label flipping, noise injection, backdoor attacks) as evaluated by test accuracy degradation on MNIST/CIFAR-10 benchmarks?.

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 5.8/10.

3 Results

13 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 5.8/10.

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/2409.17754v1
- http://arxiv.org/abs/2506.01989v2
- http://arxiv.org/abs/2006.13421v2