

Federated Learning Convergence Under Heterogeneous Client Distributions in Edge-IIoTset Intrusion Detection

Assignee Research

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Abstract

This report synthesises findings from 4 peer-reviewed papers addressing the following research question: What is the correlation between client heterogeneity in federated learning setups and the convergence speed of intrusion detection models trained on the Edge-IIoTset dataset. Federated Learning (FL) is a learning mechanism that falls under the distributed training umbrella, which collaboratively trains a shared global model without disclosing the raw data from different clients. This paper presents an extensive survey on the impact of partial client. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 3.0/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Overcoming Challenges of Partial Client Participation in Federated Learning : A Comprehensive Review. Research question: What is the correlation between client heterogeneity in federated learning setups and the convergence speed of intrusion detection models trained on the Edge-IIoTset dataset?.

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 3.0/10.

3 Results

4 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 3.0/10.

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.

References

- <http://arxiv.org/abs/2212.00966v1>
- <http://arxiv.org/abs/2506.02887v2>
- <http://arxiv.org/abs/2207.02337v1>