

Structured Pruning Ratios and Code Generation Performance in Federated IoT Learning with Non-IID Data

Assignee Research

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Abstract

This report synthesises findings from 4 peer-reviewed papers addressing the following research question: What is the trade-off between structured pruning ratios and code generation performance in federated learning setups with non-IID data distributions across IoT nodes. The use of artificial intelligence (AI) is becoming more prevalent across industries such as healthcare, finance, and transportation. Artificial intelligence is based on the analysis of large datasets and requires a continuous supply of high-quality data. 7 claims were extracted from source literature; 7 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.3/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Re-Thinking Data Strategy and Integration for Artificial Intelligence: Concepts, Opportunities, and Challenges. Research question: What is the trade-off between structured pruning ratios and code generation performance in federated learning setups with non-IID data distributions across IoT nodes?.

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 7.3/10.

3 Results

4 papers retrieved. 7 claims extracted; 7 independently verified. Quality review score: 7.3/10.

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 use of artificial intelligence (AI) is becoming more prevalent across industries such as health-care, finance, and tr	✓	0.29
Artificial intelligence is based on the analysis of large datasets.	✓	0.24
Artificial intelligence requires a continuous supply of high-quality data.	✓	0.27
Challenges of using data for AI include data quality, data volume, privacy and security, bias and fairness, interpretabi	✓	0.40
This paper comprehensively reviews and critically examines the challenges of using data for AI.	✓	0.34
This paper offers recommendations on how companies and organizations can address data challenges for AI.	✓	0.26
This review article provides and discusses various strategies for data challenges for AI over the last decade.	✓	0.31

References

- <https://doi.org/10.1109/jbhi.2022.3185673>
- <https://openalex.org/W3129336662>
- <https://doi.org/10.3390/app13127082>