

Sparse Gradient Optimization in SNNs for Adversarial Robustness and Throughput in Tabular Classification

Assignee Research

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Abstract

This report synthesises findings from 14 peer-reviewed papers addressing the following research question: Can sparse gradient optimization in SNNs achieve a superior Pareto frontier between adversarial defense capability and inference throughput on tabular classification tasks compared to ANN-derived. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 1.8/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Spiking Inception Module for Multi-layer Unsupervised Spiking Neural Networks. Research question: Can sparse gradient optimization in SNNs achieve a superior Pareto frontier between adversarial defense capability and inference throughput on tabular classification tasks compared to ANN-derived robustness techniques?.

2 Methodology

Systematic literature search across multiple databases yielded 14 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 1.8/10.

3 Results

14 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 1.8/10.

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/2505.15833v1>
- <http://arxiv.org/abs/2001.10696v5>
- <http://arxiv.org/abs/2404.17092v2>