Dynamic Learning Rate Schedules and Stability in Adversarial Code Generation

Assignee Research

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Abstract

This report synthesises findings from 14 peer-reviewed papers addressing the following research question: What is the correlation between dynamic learning rate schedules and the stability of code generation models when evaluated on adversarial examples from LiveCodeBench. 4 claims were extracted from source literature; 1 was independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 5.0/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: A Closer Look at Deep Learning Heuristics: Learning rate restarts, Warmup and Distillation. Research question: What is the correlation between dynamic learning rate schedules and the stability of code generation models when evaluated on adversarial examples from LiveCodeBench?.

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 5.0/10.

3 Results

14 papers retrieved. 4 claims extracted; 1 independently verified. Quality review score: 5.0/10.

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.

5 Extracted Claims

Claim	Verified	Confidence
Learning rate restarts, warmup, and distillation are heuristics used in deep learning.	✓	0.27
The paper presents benchmark tables comparing different deep learning heuristics.	×	0.08
The benchmark table includes conditions such as LB, LB + war, no wa mup, rmup, LB + FC freeze (no wa mup).	×	0.00
The benchmark table includes conditions such as LB, LB + war, no wa, + FC mup, rmup, freeze (no wa mup).	×	0.00

References

- http://arxiv.org/abs/2310.07831v2
- http://arxiv.org/abs/1905.03837v1
- http://arxiv.org/abs/1810.13243v1