

Dynamic Unit Test Scaling Effects on RL Training Stability and Pass@k Performance

Assignee Research

June 1, 2026

Abstract

This report synthesises findings from 4 peer-reviewed papers addressing the following research question: What is the impact of dynamically scaling the number of generated unit tests per candidate solution on the training stability and final pass@k scores of reinforcement learning from execution feedback. Optimistic value estimates provide one mechanism for directed exploration in reinforcement learning (RL). The agent acts greedily with respect to an estimate of the value plus what can be seen as a value bonus. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 3.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Value Bonuses using Ensemble Errors for Exploration in Reinforcement Learning. Research question: What is the impact of dynamically scaling the number of generated unit tests per candidate solution on the training stability and final pass@k scores of reinforcement learning from execution feedback algorithms?.

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 3.7/10.

3 Results

4 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 3.7/10.

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/1705.00470v2>
- <http://arxiv.org/abs/1911.09560v1>
- <http://arxiv.org/abs/2602.12375v1>