Continuous Latent Action Models in Long-Horizon Robotic Tasks with Limited Labeled Data

Assignee Research

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Abstract

This report synthesises findings from 12 peer-reviewed papers addressing the following research question: How do continuous latent action models perform in long-horizon robot tasks (e.g., Lift or X-Maze) when fine-tuned with a small amount of labeled data, measured by success rates and compared to. 6 claims were extracted from source literature; 6 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.9/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: An Introduction to Deep Reinforcement Learning. Research question: How do continuous latent action models perform in long-horizon robot tasks (e.g., Lift or X-Maze) when fine-tuned with a small amount of labeled data, measured by success rates and compared to discrete token baselines?.

2 Methodology

Systematic literature search across multiple databases yielded 12 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.9/10.

3 Results

12 papers retrieved. 6 claims extracted; 6 independently verified. Quality review score: 7.9/10.

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
Deep reinforcement learning is the combination of reinforcement learning (RL) and deep learning.	✓	0.43
Deep reinforcement learning has been able to solve a wide range of complex decision making tasks that were previously ou	✓	0.49
Deep reinforcement learning opens up many new applications in domains such as healthcare, robotics, smart grids, finance	✓	0.45
This manuscript provides an introduction to deep reinforcement learning models, algorithms and techniques.	✓	0.45
The manuscript focuses on the aspects related to generalization and how deep RL can be used for practical applications.	✓	0.36
The manuscript assumes the reader is familiar with basic machine learning concepts.	✓	0.28

References

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- https://doi.org/10.1109/tpami.2023.3243465
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