

# Scalability of Continuous Latent Action Models vs. Discrete Tokens in Robot Manipulation

Assignee Research

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## Abstract

This report synthesises findings from 8 peer-reviewed papers addressing the following research question: How does the scalability of continuous latent action models compare to discrete token methods when evaluated on the CalAct benchmark for robot manipulation tasks, measured by success rates across. 7 claims were extracted from source literature; 6 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

## 1 Introduction

This paper examines: Machine learning & artificial intelligence in the quantum domain: a review of recent progress. Research question: How does the scalability of continuous latent action models compare to discrete token methods when evaluated on the CalAct benchmark for robot manipulation tasks, measured by success rates across varying numbers of unlabeled demonstrations?.

## 2 Methodology

Systematic literature search across multiple databases yielded 8 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.7/10.

## 3 Results

8 papers retrieved. 7 claims extracted; 6 independently verified. Quality review score: 7.7/10.

## 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.

## 5 Extracted Claims

Claim	Verified	Confidence
Quantum information technologies and intelligent learning systems are emergent technologies likely to have a transformat	✓	0.29
The fields of quantum information and machine learning/AI have historically been investigated largely independently.	✓	0.18
Quantum ML explores the interaction between quantum computing and ML to solve problems in either field.	✓	0.25
Quantum computing provides speed-ups for machine learning problems.	✓	0.18
Machine learning is used for classical optimization in quantum experiments.	✓	0.16
Quantum enhancements have been theoretically demonstrated for interactive learning tasks.	✓	0.21
AI is being explored for the design of quantum experiments.	×	0.13

## References

- <https://doi.org/10.48550/arxiv.2307.06435>
- <https://doi.org/10.1007/s10462-022-10246-w>
- <https://doi.org/10.1088/1361-6633/aab406>