Impact of CLAM Latent Space Dimensionality on Embodied Agent Reasoning in Multi-Step Manipulation Tasks

Assignee Research

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Abstract

For a long time, humanity has pursued artificial intelligence (AI) equivalent to or surpassing the human level, with AI agents considered a promising vehicle for this pursuit. AI agents are artificial entities that sense their environment, make decisions, and take actions. Many efforts have been made to develop intelligent agents, but they mainly focus on advancement in algorithms or training strategies to enhance specific capabilities or performance on particular tasks. Actually, what the community lacks is a general and powerful model to serve as a starting point for designing AI agents that

1 Introduction

This paper examines: The Rise and Potential of Large Language Model Based Agents: A Survey. Research question: How do different latent space dimensionalities in CLAM affect the reasoning capabilities of embodied agents in multi-step manipulation tasks, as measured by success rates on the RoboWatch benchmark for temporal action localization?.

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 8.0/10.

3 Results

8 papers retrieved. 6 claims extracted; 6 independently verified. Quality review score: 8.0/10.

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
AI agents are artificial entities that sense their environment, make decisions, and take actions.	✓	0.27
Many efforts to develop intelligent agents have mainly focused on advancement in algorithms or training strategies to en	✓	0.28
Large language models (LLMs) are regarded as potential sparks for Artificial General Intelligence (AGI).	✓	0.32
Many researchers have leveraged LLMs as the foundation to build AI agents and have achieved significant progress.	✓	0.28
The paper presents a general framework for LLM-based agents comprising three main components: brain, perception, and act	✓	0.29
The paper explores applications of LLM-based agents in single-agent scenarios and multi-agent scenarios.	✓	0.23

References

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- https://doi.org/10.1109/access.2021.3140175
- https://doi.org/10.48550/arxiv.2309.07864