

# Diverse Interface Training Enhances Zero-Shot Generalization in GUI Agents

Assignee Research

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## Abstract

This report synthesises findings from 15 peer-reviewed papers addressing the following research question: To what extent does training on diverse application interfaces improve the zero-shot generalization of GUI agents to unseen software environments. 10 claims were extracted from source literature; 10 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.0/10. This report is a machine-generated literature synthesis and does not constitute original research.

## 1 Introduction

This paper examines: A survey on large language model based autonomous agents. Research question: To what extent does training on diverse application interfaces improve the zero-shot generalization of GUI agents to unseen software environments?.

## 2 Methodology

Systematic literature search across multiple databases yielded 15 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

15 papers retrieved. 10 claims extracted; 10 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
Previous research often focuses on training agents with limited knowledge within isolated environments.	✓	0.29
Previous research approaches diverge significantly from human learning processes.	✓	0.17
Previous research approaches make agents hard to achieve human-like decisions.	✓	0.22
Large language models (LLMs) have acquired vast amounts of Web knowledge.	✓	0.21
Large language models (LLMs) have shown potential in human-level intelligence.	✓	0.27
There has been a surge in research on LLM-based autonomous agents recently.	✓	0.30
The paper presents a unified framework for the construction of LLM-based autonomous agents.	✓	0.26
The proposed unified framework encompasses much of previous work on LLM-based autonomous agents.	✓	0.30
LLM-based autonomous agents have diverse applications in social science, natural science, and engineering.	✓	0.33
The paper reviews evaluation strategies commonly used for LLM-based autonomous agents.	✓	0.29

## References

- <https://doi.org/10.1038/s41592-022-01663-4>
- <https://doi.org/10.1007/s11704-024-40231-1>
- <https://doi.org/10.1007/s10915-022-01939-z>