CS 846 Software Engineering for Big Data and AI

Developing Customized AI Applications With LLM-Based Autonomous Agents

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The project presents a case study of a thorough and structured-approach to explore LLM-based autonomous agents and their role in advancing AGI. It divides the discussion into open-sourced and closed-sourced systems, offering comprehensive view on the current landscape of LLM.

Strengths

- Structured Methodology: The project has a structured methodology indicating a thorough research process of the case study.
- Relevance to AGI: The project has strong alignment with long-term goals of AI research and addresses an important area with a high future research value.
- Comprehensive Scope: By bridging the gap in the literature on frameworks pertaining to LLM-based autonomous agents, the project addressed a timely and relevant topic in AI field.

Weaknesses

- Limited Framework Comparison: While the project mentions the comparison of frameworks, it lacks explicit criteria and benchmarks for comparison, which may limit the depth of analysis.
- Issues and Limitations: The project does not sufficiently address the potential issues, ethical issues, and limitations of implementing LLM-based autonomous agents.
- Impact Measurement: There seems to be an absence of a defined strategy for measuring the impact of these agents and the frameworks in real-world scenarios or in practical contexts.

Suggestions for Potential Improvements

- Include threats to validity, discussing about the limitations of the case study and acknowledging the scope of the research findings.
- Add future research on how future research could be expanded / benefited from this study.
- Expand RQ to cover potential issues (eg, ethical) and limitations of LLM-based agents.
- Include a section on the potential real-world applications of these autonomous agents, particularly in industry-specific scenarios - such as the economic and social implications of deploying such agents.
- Deepen the methodological approach, particularly regarding data collection, analysis, and the reproducibility of the research.