

Peer Review

Review of: "Agentic Systems: A Guide to Transforming Industries with Vertical AI Agents"

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I consider the paper to be very interesting and relevant to the AI field, especially regarding the topic of agents. The paper provides a thorough exploration of how agentic systems, particularly those leveraging LLMs, are transforming industry-specific applications. The study highlights the limitations of traditional SaaS platforms and context-aware systems, emphasizing the need for more adaptive, domain-specific AI solutions. The introduction of Vertical AI agents as a bridge between general-purpose AI and specialized industry needs is well-articulated, with clear distinctions between LLM agents, multi-agent systems, and human-augmented agents.

One of the paper's strong points lies in its structured approach to defining agentic system architectures, operational patterns, and real-world applications. The discussion on memory, reasoning engines, cognitive skills, and tools provides insightful details about how these agents function. Additionally, the exploration of emerging industry frameworks by major players like OpenAI, Microsoft, Amazon, and Google adds credibility to the analysis.

However, while the paper provides a solid theoretical foundation, it could benefit from a deeper empirical evaluation of agentic systems in practice. Case studies or comparative performance metrics would enhance its impact. Overall, this is a well-researched and forward-looking paper that contributes significantly to the evolving discourse on AI-driven automation.

Nevertheless, especially in the context of the latest wave of Chinese-based AI contenders (DeepSeek, Alibaba, Baidu, etc.), the research should further include a larger section dedicated to such open source/proprietary solutions.

At this stage, the paper is purely descriptive, exhaustively presenting modern solutions in the field but without any study cases, indicators, numbers, comparisons, etc. There is no direct support or data for any statement, and everything remains at a purely theoretical level, as best said in the end of the paper: “agentic systems hold immense potential to revolutionize industries and tackle complex societal challenges” – true, but no evidence is deriving from the current work.

Declarations

Potential competing interests: No potential competing interests to declare.