

Digital Personal Assistants Using Agentic LLM's

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Abstract: *The LLM-powered agents are designed to be proactive and adaptable, capable of complex reasoning and task execution. A central concept is Agency, defined as the model's capacity to proactively manage collaboration and interaction. Researchers measure agency using a framework based on social-cognitive theory, which identifies key features like intentionality, motivation, self-efficacy, and self-regulation.*

LLM agents are being explored for various applications, including digital personal assistance, customer service, and e-commerce. In one study, LLM agents acted as "digital twins" to simulate customer behavior and evaluate the performance of agentic AI systems. The study found that while the agents made more diverse choices, their actions and feedback were aligned with human participants, making them a valuable tool for evaluation.

Efforts are also underway to standardize the design of these blocks and proposing a Cognitive Skills Module with domain-specific capabilities. This standardization would allow for the development of multi-agent systems where specialized agents collaborate to complete complex tasks specified in natural language, improving efficiency and reliability. This new era of LLM-powered agents promises to reinvent workflow automation and drive industry specific applications. systems by identifying core building.

Keywords: Agentic Systems, Large Language Models, LLM powered Agents, Social Cognitive Theory, Self Efficacy, Self Regulation, Workflow Automation, Human-AI Collaboration, Efficiency and Reliability, Industry -specific Applications.

