

Agentic workflows help AI systems think like humans

The results could be far superior to what current LLMs provide

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Andrew Ng, founder of DeepLearning.AI and a pioneer in the computer science field, recently gave a talk at Sequoia Capital's AI Ascent event where he outlined the progress being made in the field of AI agentic workflows, and why he thinks it will be responsible for driving significant progress in the field of AI.

As he explains it, the problem with large language models (LLMs) today is that they use a non-agentic workflow – where you type a prompt and the LLM generates an answer in one shot. “That’s a bit like if you ask a person to write an essay on a topic and they type the essay from start to finish without ever using backspace. And despite how hard this is to do, LLMs do it remarkably well,” he said.

In contrast, with an agentic workflow, Andrew says, the LLM can write an essay outline, do web research, write the first draft, read its own first draft, think about what parts need revision, and then revise it. In essence, this workflow mimics how a human goes about writing an essay, and the results are not just far superior to non-agentic workflows, but they in fact turn these AI systems into personal assistants – or ‘AI agents’ as they are called officially. Multiple AI agents could even collaborate.

Devin, a recently unveiled AI

SELF-LEARNING, INTELLIGENT COLLABORATORS

“In an agentic workflow, AI agents are guided through various tasks, like brainstorming, researching, drafting, and refining. This process mirrors how humans solve problems collaboratively. By going through multiple rounds of refinement, AI agents improve and learn from feedback. For example, in coding benchmarks, using the agentic workflow led to better results compared to traditional methods. This shows how the agentic approach helps AI agents work effectively.”



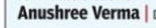
Prabhakar Srinivasan | CO-HEAD, AI PRACTICE, SYNECHRON

The AI agent of the future holds immense potential to reshape various aspects of work and daily life. While current examples like Devin from Cognition, capable of end-to-end software development, provide a glimpse into the future, we can expect AI agents of the future to become self-learning, intelligent collaborators, assume a variety of roles, and expand their capabilities across diverse domains.



Vaishali Acharya | SENIOR DIRECTOR, CUSTOMER SUCCESS, INDIA, UIPATH

We at Gartner expect that in the future, human interactions with generative AI may evolve from an approach where users prompt LLMs toward an approach that involves interfacing with autonomous, goal-driven agents. Several AI research labs and startups are building action transformer models, which can take actions on the user's behalf. These models could automate a broad range of repetitive and low-value tasks.



Anushree Verma | DIRECTOR ANALYST, GARTNER

It's fascinating to see some of the technological advancements propelling the emergence of AI agents.

system capable of doing software development end to end, is an example of an AI agent that uses an agentic workflow to get tasks done.

But the impact of these advancements goes far beyond just software development, says Ramprakash Ramamoorthy, director of AI at ManageEngine. “For decades, the dream of a personal

digital assistant has captivated all of us – right from Microsoft's Clippy in 1996.”

Ramprakash says AI agents will become the conversational front-end to our digital tools. “Imagine booking a flight ticket, amending it, or even getting recommendations for activities at your destination – all via a simple conversation. This isn't about re-

Without a doubt, they are reshaping the landscape of intelligent digital systems. Foundation Models and Large Language Models (LLMs) stand tall in this evolution. The future of AI agents is full of promise, as they increasingly integrate into our daily lives, offering assistance, and augmenting human capabilities.

Sridhar Turaga | SVP, DATA AND ANALYTICS PRACTICES, CITIUSTECH



It is reasonable to expect AI agents to take on an increasingly wider range of tasks and responsibilities in the future. It's highly likely that we'll see AI agents capable of handling white-collar tasks that currently require human expertise. However, there are aspects of these fields that require human judgment, emotional intelligence, and an understanding of ethics and social dynamics that may prove challenging for AI to fully replicate.



Ramasubramaniam S | SENIOR VP & GLOBAL PRACTICE HEAD, DATA & AI, COLLABERA DIGITAL

Conducting and writing research reports is a great example where multiple agents can be designed to collaborate and perform different activities. For instance, one agent could be responsible for researching information within the enterprise's own repository, such as financial statements. Another agent could be tasked with searching the public internet for relevant news articles. A third agent could be dedicated to fetching real-time market data. The interplay of the different agents allows for a more efficient and thorough analysis.

Rahul Jain | HEAD, AI CENTRE OF EXCELLENCE, FIDELITY INTERNATIONAL



placing human agents, but about democratising knowledge and making human agents more productive by referencing relevant data from tonnes of past transactions,” he says.

Vaishali Acharya, senior director of customer success for India at UiPath, says we can expect AI agents of the future to become self-learning, intelligent collabo-

rators, assume a variety of roles, and expand their capabilities across diverse domains. “In the future, AI agents could undertake tasks traditionally associated with human expertise, such as HR work or legal paperwork. Ultimately, the AI agent of the future represents a convergence of technological advancements and human ingenuity,” she says.

Sumeet Mathur, VP and MD of ServiceNow's India Technology and Business Centre, is even more bullish. He says in the future, whatever task that can be automated and actioned from data will be done by AI agents, while humans will have more time for higher order work that requires reasoning and creativity. “While of course, governing the risks around AI.”

CHALLENGES REMAIN

As exciting as all of these advancements are, there are several challenges that need to be addressed before we see AI agents doing a wide variety of white-collar jobs, says Rahul Jain, head of AI centre of excellence at Fidelity International. “Firstly, access to underlying APIs within enterprises is crucial for agents to effectively utilise the available resources. Secondly, respecting any external licensing arrangements especially for market data access is important. And lastly, the unpredictability of LLMs could lead to avoidable mistakes in decision making, hence human engagement becomes important to avoid any unintended consequences,” he says.

Anushree Verma, director analyst at Gartner, says her firm expects AI agents to be a reality relatively soon. “By 2028, one-third of interactions with Gen AI services will invoke action models and autonomous agents for task completion.”