

Agentic AI

From Tools to Teammates

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Definition

AI systems that can **act autonomously** toward goals

*"What if AI could complete entire projects,
not just tasks?"*

- Moving beyond single responses
- AI that takes initiative and follows through
- A new paradigm in human-AI interaction

Autonomy

- Makes decisions independently
- Minimal human supervision

Memory and Context

- Short-term memory: conversation history, current task state
- Long-term memory: knowledge bases, past interactions
- Ensure consistency across extended workflows

Multi-step Reasoning

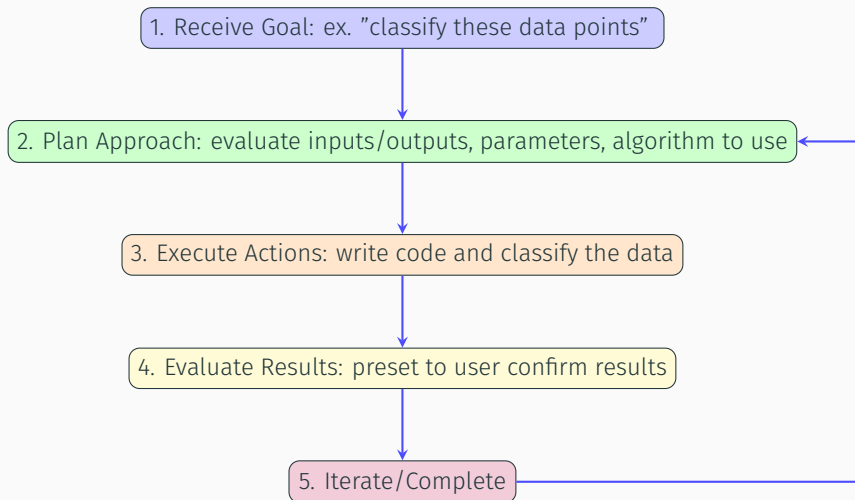
- Breaks down complex goals
- Creates workflow of simple tasks

Tool Use

- Leverages APIs
- Accesses databases
- Uses search engines

Learning and Adaptation:

- Improve strategies and performance over time



Agentic AI has a large application space

- **Software Development**
 - Writing, testing, and debugging code
 - Automated code reviews
- **Research & Analysis**
 - Gathering and synthesizing data
 - Literature reviews and insights
- **Customer Service**
 - Resolving complex multi-step issues
 - Proactive problem-solving
- **Personal Assistants**
 - Managing schedules and bookings
 - Coordinating communications

Agentic AI Frameworks: Architectures, Protocols, and Design Challenges *arXiv:2508.10146*

Systematic review and comparative analysis of CrewAI, LangGraph, AutoGen, Semantic Kernel, and MetaGPT

Agentic AI: The age of reasoning—A review

Ume Nisa, et al., Journal of Automation and Intelligence, 2025

"The Ultimate Enterprise Agentic AI Reading List" - LinkedIn

<https://www.linkedin.com/pulse/ultimate-enterprise-agentic-ai-reading-list-16-essential-blogs-loo3f>

"Designing a Successful Agentic AI System" (2025) - Harvard Business Review

<https://hbr.org/2025/10/designing-a-successful-agentic-ai-system>