## **What is Agentic AI?**

**Agentic AI** refers to **AI systems that act as autonomous “agents”** — meaning they don’t just passively respond to input, but **take initiative, make decisions, and perform actions** to achieve specific goals.

Think of it as the evolution of traditional AI models (like ChatGPT) into **self-directed, goal-oriented digital agents**.

### **Example:**

A traditional chatbot:

“What’s the weather in Mumbai?”

→ Gives you the answer.

An **Agentic AI**:

You say “Plan my weekend trip to Mumbai.”

→ It will:

1. Search for flights
2. Compare prices
3. Find hotels
4. Suggest an itinerary
5. Book them (if allowed)

In short: **Agentic AI = AI that plans, reasons, and acts** to complete tasks automatically.

## **Core Abilities of Agentic AI**

Agentic AI systems are built on three main capabilities:

| **Capability** | **Meaning** |
| --- | --- |
| **Reasoning** | Understands complex goals, breaks them into smaller tasks |
| **Memory** | Remembers past interactions, learns from them |
| **Action** | Uses tools (e.g., web search, APIs, Python, etc.) to perform real-world tasks |

## **What is Memory in Agentic AI?**

Memory is what allows an AI agent to **retain information across interactions** — so it can **learn, adapt, and make better decisions over time**.

### **Types of Memory in Agentic AI:**

| **Type** | **Description** | **Example** |
| --- | --- | --- |
| **Short-term memory** | Holds information only during a current task or session | “While planning a trip, remember the destination = Mumbai” |
| **Long-term memory** | Persists across sessions; used to learn user preferences | “User likes 4-star hotels and vegetarian food” |
| **Episodic memory** | Remembers sequences of events or past actions | “Last time, I booked a flight through MakeMyTrip” |
| **Semantic memory** | Knowledge of general facts and relationships | “Mumbai is a city in India” |

So when Agentic AI “remembers” something, it means it **stores context** that can influence future reasoning or behavior.

## **Tools Used by Agentic AI**

Agentic AI often uses **tools (functions, APIs, or systems)** to perform actions in the real world.  
 These tools expand the agent’s ability beyond text generation.

**Common Tools:**

| **Tool Type** | **Example** | **Purpose** |
| --- | --- | --- |
| **Web Search API** | Google, Bing | Find up-to-date info |
| **Database Access** | SQL, NoSQL | Query or update data |
| **Python/Code Execution** | Python shell | Perform calculations or automation |
| **External APIs** | Weather, Flight, or Finance APIs | Get real-world data |
| **File Management** | Create/edit documents | Generate reports, store files |
| **Memory Store** | Vector DBs like Pinecone, FAISS, Chroma | Store user data or embeddings |

Many modern frameworks like **LangChain, LlamaIndex, and OpenAI’s GPTs** support tool integration to create **Agentic systems**.

## **What is Agent AI?**

The term **Agent AI** (or **AI Agent**) refers to a **single intelligent agent** that acts on behalf of a user to complete specific tasks autonomously.

In short:

**Agent AI = Implementation of Agentic AI principles.**

So “Agentic AI” is the **concept or approach**, while “Agent AI” usually refers to a **specific system, product, or model** that behaves like an agent.

### **Example:**

* ChatGPT with file upload, code interpreter, and web search → acts as an **AI Agent**.
* AutoGPT or BabyAGI → **Agentic AI frameworks** that can plan and execute multiple steps toward a goal.

| **Term** | **Meaning** | **Example** |
| --- | --- | --- |
| **Agentic AI** | The idea of AIs that can act autonomously | “AI that books travel plans for you” |
| **Agent AI** | A specific instance or implementation of Agentic AI | “ChatGPT with browsing + memory + code tools” |
| **Memory** | The system that helps AI remember context over time | “Knows your travel preferences” |
| **Tools** | External capabilities the agent can use | “Search flights, run Python code, send emails” |

**How It All Fits Together**