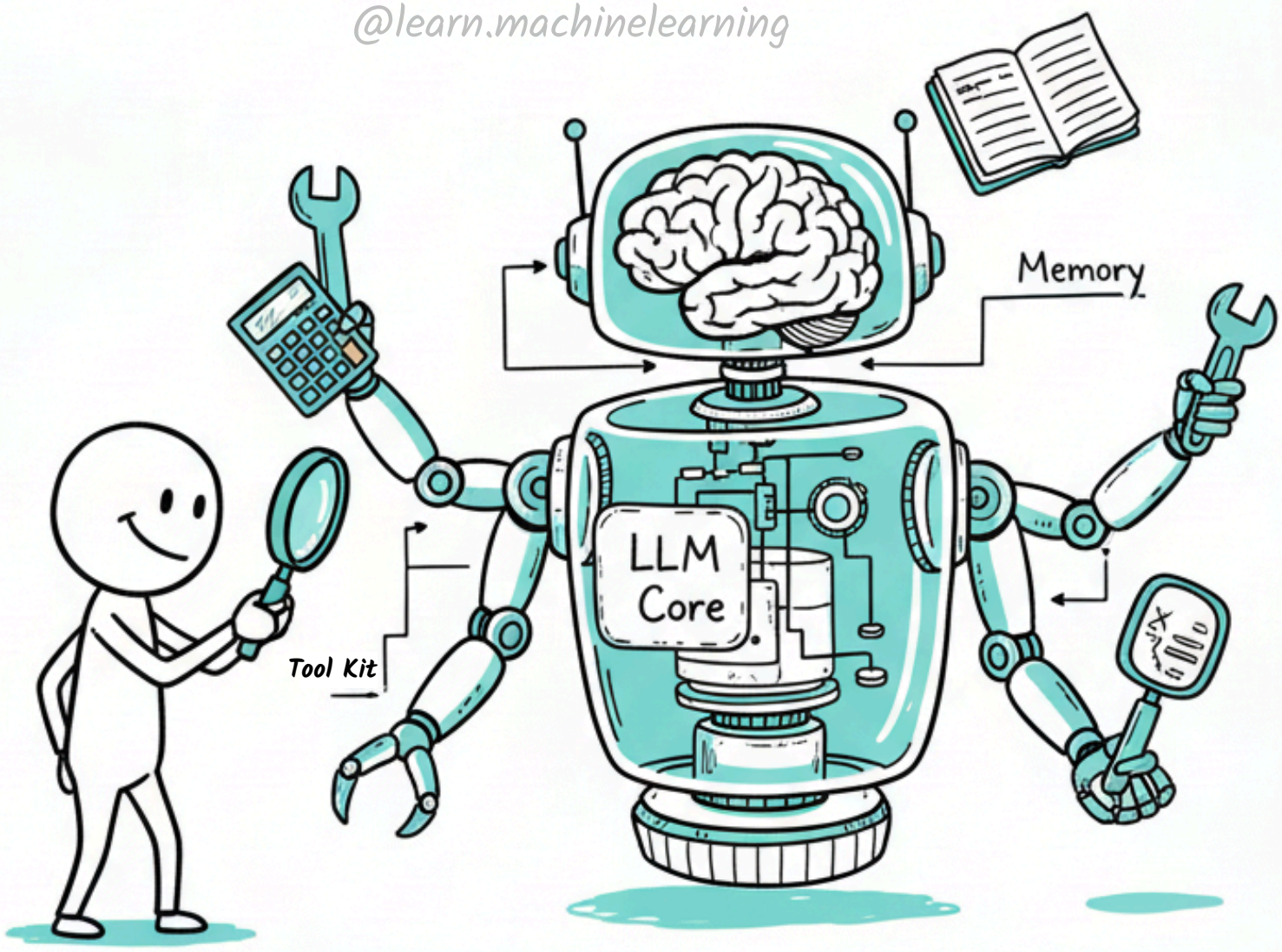
GENERATIVE AI SERIES: DAY 26

The Anatomy of an AI Agent: Under the Hood

Yesterday, we learned what an agent is. Today, w're popping hood to see three essential parts that make it work. Lets see what makes a agent tick!



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It's Not Magic, It's a System!

An AI Agent can seem like magic, but it's actually a well-designed system with three core components working together. Understanding these parts is the key to understanding how agents can perform complex tasks.

- The LLM Core (The Brain)
- The Tool-Kit (The Hands)
- Memory (The Notebook)

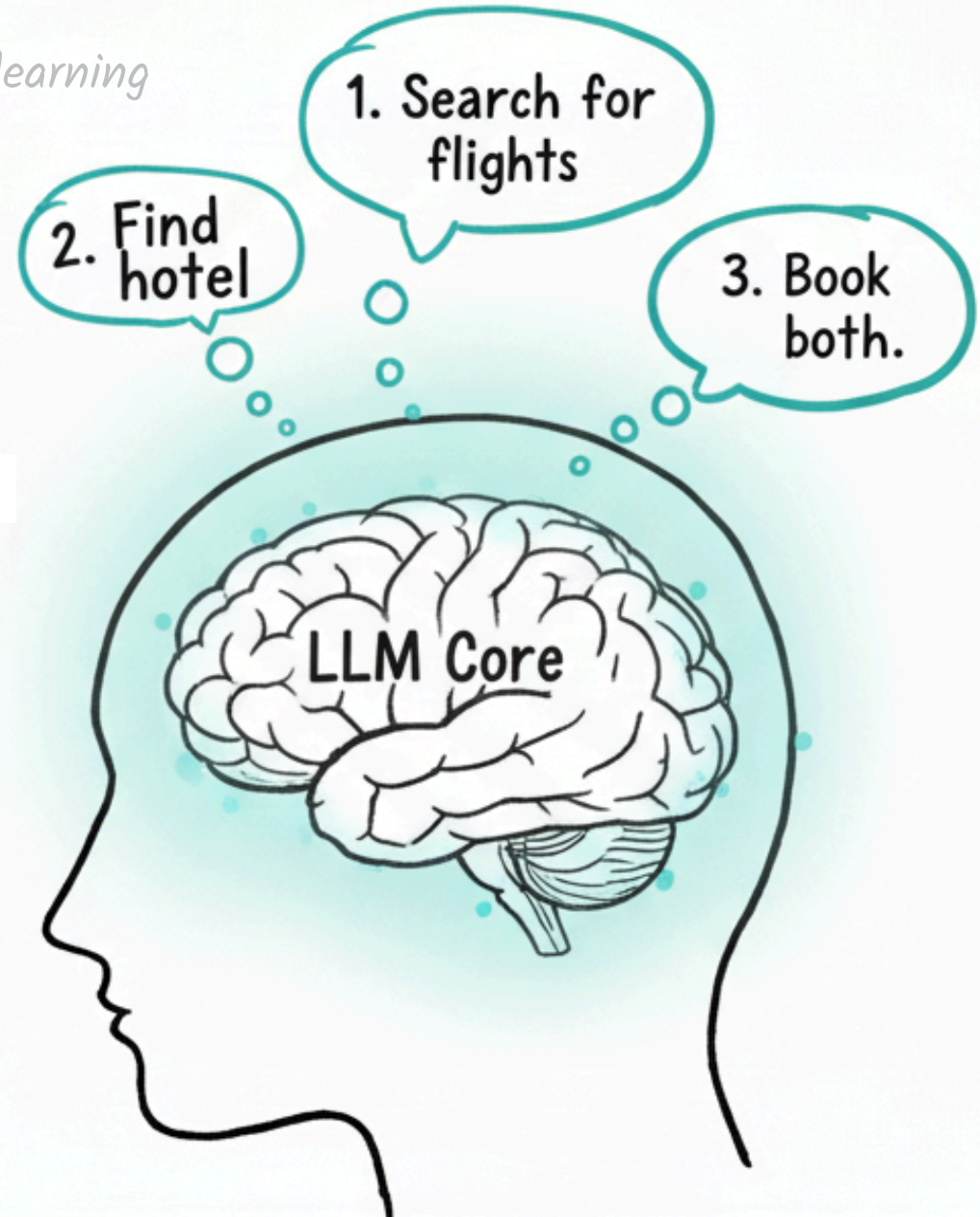
The Central Reasoning Engine

This is the heart of agent. The Large Language Model doesn't just generate text; it serves as central processor that:

Understnads the user's ultimate goal. Plans the sequence of steps needed to achieve it.

Decides which tool to use at each step based *on* the current situation.

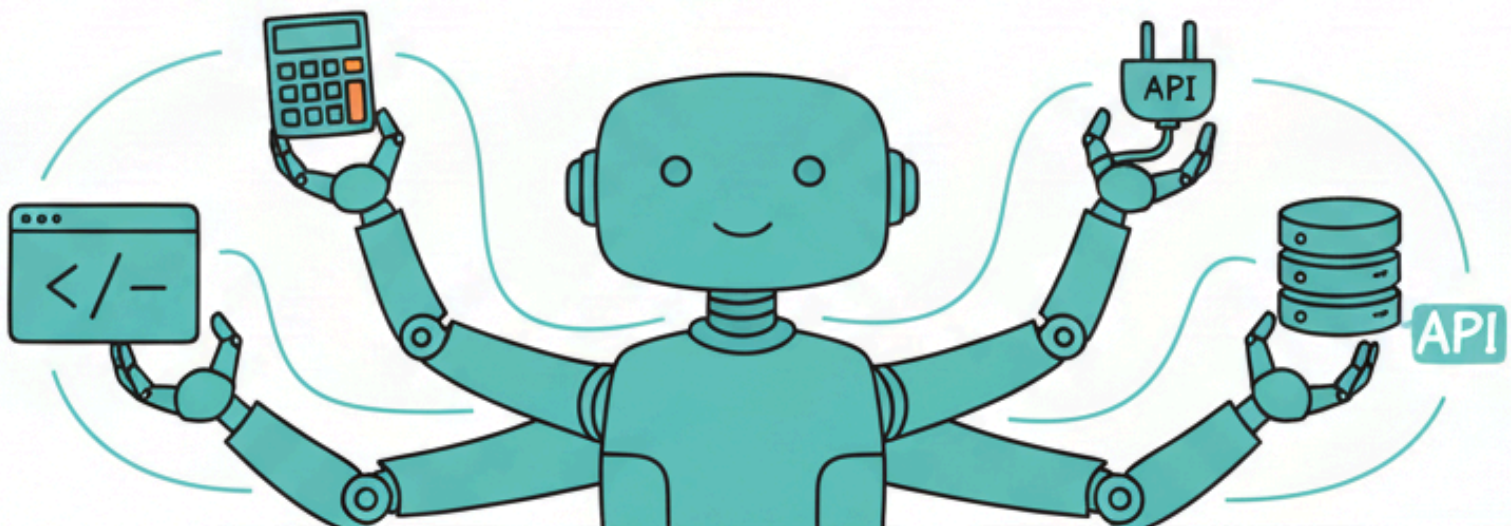
It's ultimate decision-maker.



An Agent is Nothing Without Its Tools 🛠️

- The LLM Core can think and plan, but it can't act on its own. The Tool-Kit gives the agent its "hands" to interact with the outside world. Each tool is a specific function the agent can call on.
- *Examples: Web search APIs, calculators, code interperers, custom functions (e.g.l, 'query_company_database.').*

- *Without tools, an agent is just thinker. With tools, it becomes doer.*



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Component #3: Memory (The Notebook)

Learning From Experience. To complete a task, an agent remember what it has already done. Memory is crucial.

- **Short-Term Memory**: Remeberss the the steps taken in no **current the current conversation.**
- (e.g.), "I already searched for flights, so now now 'll search for hotels.").
- **Long-Torm Memory:** ***Can be used to store key information or learnings from past tasks to improve future performance. Memory allows the agent to handle multi-step tasks without getting lost.***

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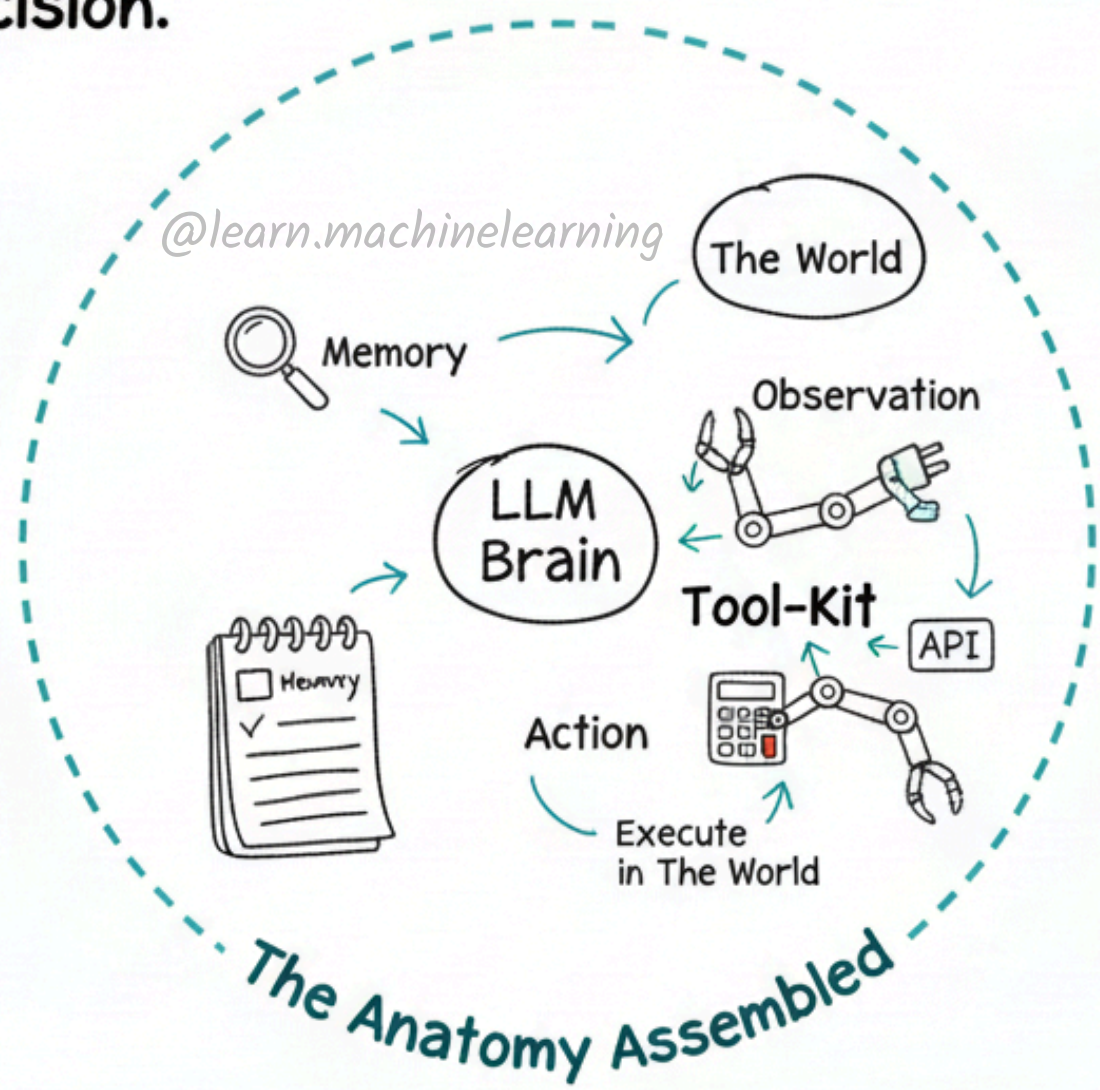
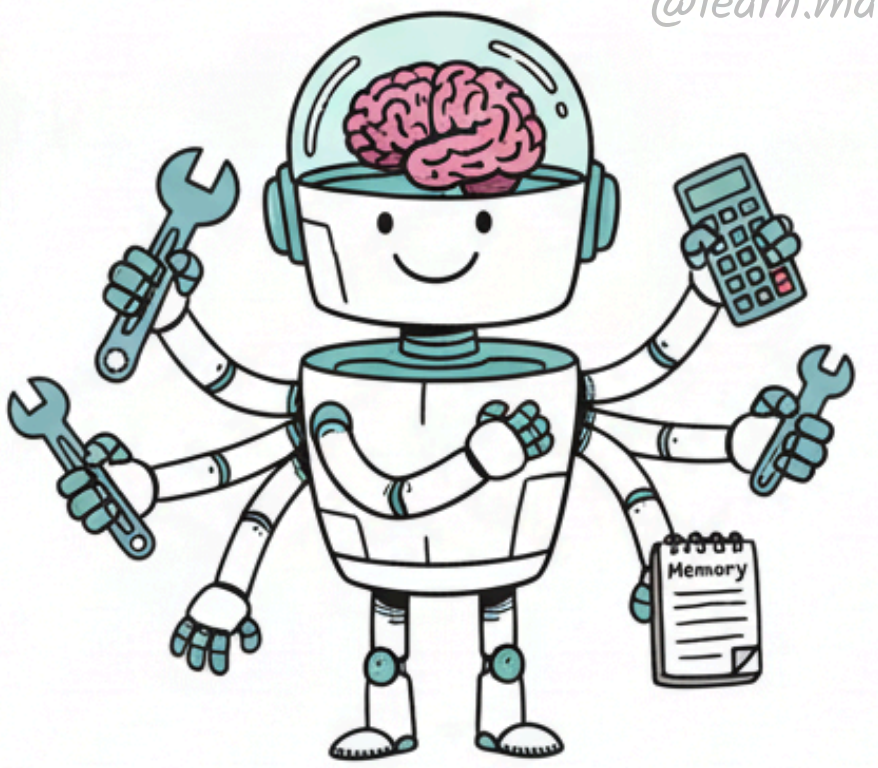
Brain, Hands and Memory in Harmony

- The **Brain (LLM)** uses its Memory to make in plan and chooses a Tool.
- **The Hands (Tool-Kit)** execute in action.
- The result is observed and stored in Memorr y, **The Brain's next decision.**



Day 26 Takeaway: Agents are Systems of Parts!

An AI Agent isn't a single monolithic entity. It's an intelligent system created by combining a reasoning LLM Core, a set of powerful Tools for action, and a persistent Memory to keep track of its progress.



Next Up:

Day 27: The ReAct Framework: How Agents Actually "Think" and Act!

Which of the thrie components—Brain, Tools, or Memory— you think the most important for building for building the smart agent? Discuss! ↓

Follow @learn.machinelearring for the full AI Agent Deep Dive!
SAVE this post to remember the core parts of an AI Agent

The End