

Introduction to the Tool-Use Pattern

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How do Traditional LLMs Fall Short?



Static Knowledge

- LLMs are trained on fixed datasets, making them unable to access new or evolving information.
- *Example:* Failing to provide up-to-date weather forecasts or stock prices.



Lack of Real-Time Data

- LLMs cannot query live sources for information.
- *Example:* Inability to retrieve breaking news or ongoing events.



Limited Functionality

- LLMs cannot perform specialized operations like calculations, translations, or data visualizations.
- *Example:* Struggling with tasks requiring API calls or advanced computations.

Why Tool Use Pattern?

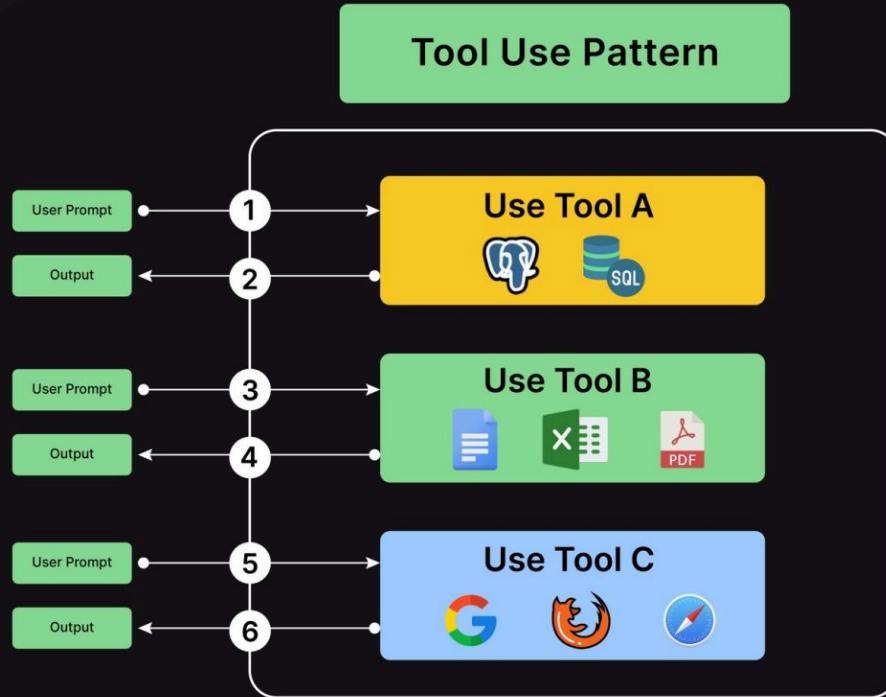


To summarize, the information stored in the LLM weights is (usually) not enough to give accurate and insightful answers to our questions

Solution: Provide the LLM with ways to access the outside world...

Introduction to the Tool Use Pattern

Tool-Use Agent is an AI Agent that reasons and calls external tools to get relevant external data and information and uses that to best solve the input task.



Introduction to the Tool Use Pattern

- **Enhanced Capabilities**

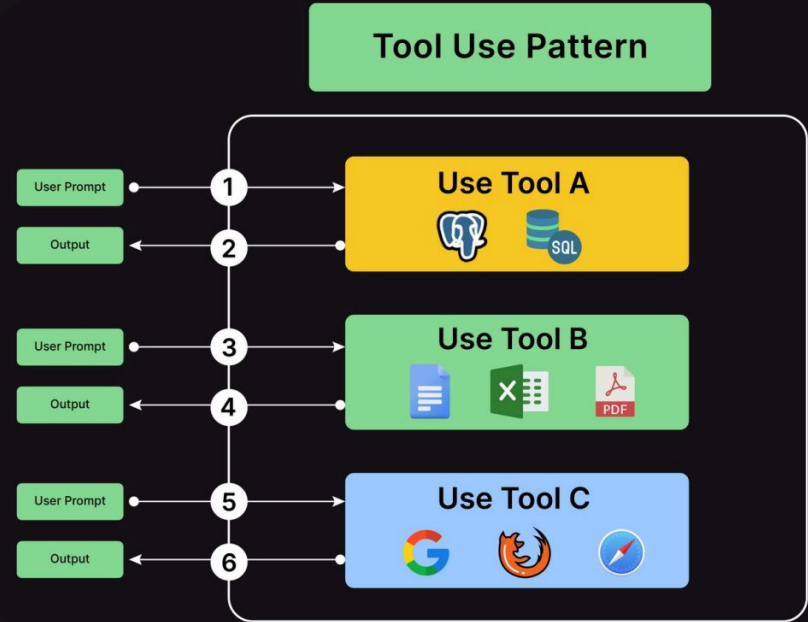
- AI agents can access external tools and resources to perform tasks beyond their built-in abilities.

- **Dynamic Tool Selection**

- Agents identify and choose the appropriate tools and their input arguments based on the specific task requirements.

- **Efficient Task Execution**

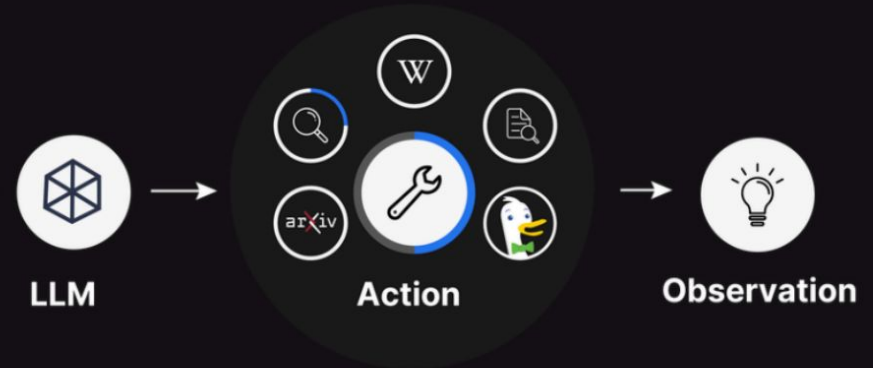
- By leveraging external tools, agents can complete complex tasks more effectively.



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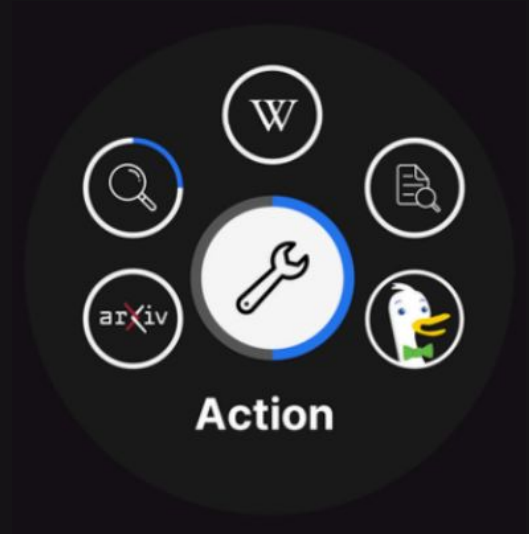
Tools are **functions an LLM can use**, such as:

- Accessing Wikipedia
- Analyzing YouTube video content
- Solving complex integrals via Wolfram Alpha
- Accessing Financial APIs
- Accessing Enterprise Databases



Introduction to the Tool Use Pattern

These tools **extend the LLMs capabilities** for specialized tasks such that they can leverage additional relevant information to solve tasks more effectively.



Thanks!