

LLM Engineering

MASTER AI & LARGE LANGUAGE MODELS



A stylized illustration of a person walking away from the viewer on a path through a forest, towards a bright sun rising over mountains. The scene is composed of warm, golden-yellow tones against a dark background. The sun is a large, glowing orb with radiating lines, positioned above a range of mountains. In the foreground, a person wearing a backpack walks away, casting a long shadow on the path. The path leads through a dense forest of tall, thin trees. The overall atmosphere is one of hope, progress, and a new beginning.

DAY 4

Another important level-up

What you can now do

- Describe transformers and explain key terminology
 - Confidently code with the APIs for GPT, Claude and Gemini
 - Build an AI Chatbot Assistant including an interactive UI
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After today you'll be able to

- Define Tools
- Give common use cases for Tools
- Code an AI Assistant that incorporates Tools

DEFINING TOOLS

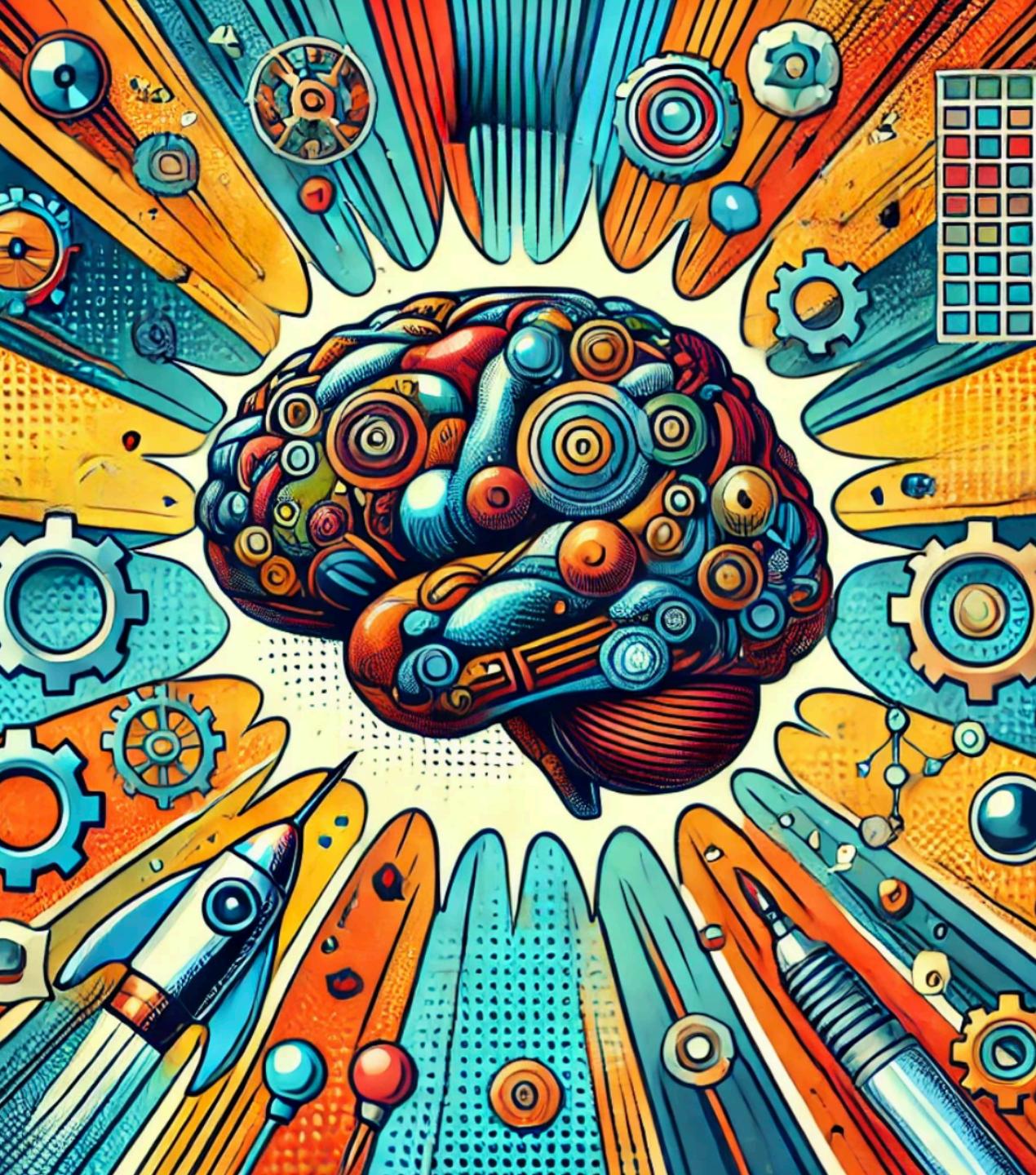
Tools

Allows Frontier models to connect with external functions

- Richer responses by extending knowledge
- Ability to carry out actions within the application
- Enhanced capabilities, like calculations

How it works

- In a request to the LLM, specify available Tools
- The reply is either Text, or a request to run a Tool
- We run the Tool and call the LLM with the results



Common Use Cases For Tools

Function Calls can enable assistants to:



Fetch data or add
knowledge or context



Take action, like booking
a meeting



Perform calculations



Modify the UI

The Informed Airline Customer Support Agent

A screenshot of a dark-themed chat interface. At the top left is a small icon of a speech bubble with a dot, followed by the word "Chatbot". The conversation consists of six messages:

- Chatbot: Hi there
- Chatbot: Hello! How can I assist you today?
- User: I'd like to travel to Paris
- Chatbot: Sure! Would you like to know the ticket price for a return trip to Paris?
- User: Yes please
- Chatbot: The ticket price for a return trip to Paris is \$899.

At the bottom of the screen are three buttons: "Retry" with a circular arrow icon, "Undo" with a circular arrow icon, and "Clear" with a trash bin icon. Below these buttons is a text input field containing the placeholder text "Type a message...". To the right of the input field is an orange "Submit" button.



COMING UP

Next week we take this to the next level

What you can now do

- Describe transformers and explain key terminology
- Confidently code with the APIs for GPT, Claude and Gemini
- Build an AI Assistant using Tools for enhanced expertise

Tomorrow will complete week 2

- Describe Agents
- Explain how Agents can carry out sequential activities
- Complete a multi-modal AI Assistant with Agents and Tools