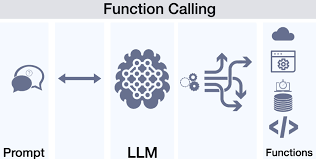
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# Tool Calling / Function Calling

*Tool Calling (or Function Calling) is when an AI, like Chatgpt, Grok etc uses external tools or small programs to help answer your questions or do tasks that it can’t do alone. Think of it like the AI asking a friend who’s an expert in something specific to help out.*

**For example:**

if I ask about the price of a burger, the AI can use a tool to check prices online. It works by the AI understanding my question, asking the right tool for help, getting the result, and then telling me the answer. This makes the AI’s answers more accurate because it uses real information from tools like calculators, search engines, or other services.

**How Does It Work?**

* **You Ask Something**: You ask the AI a question or give it a task, like “What’s 10 + 5?” or “Tell me about recent news.”
* **AI Figures Out What’s Needed**: The AI checks if it needs extra help to answer properly. For example, it might need a calculator for math or a news website for updates.
* **AI Uses a Tool**: The AI sends a request to a specific tool (a small program made for a particular job). Examples of tools:
* A **calculator** for math.
* A **search tool** to find information online.
* A **weather service** to check the forecast.
* **Tool Gives the Answer**: The tool does its job and sends the result back to the AI. For example, the calculator says “10 + 5 = 15.”
* **AI Explains It to You**: The AI takes the tool’s result and tells you the answer in a clear, friendly way.

**Why is Tool Calling Helpful?**

* **Better Answers**: The AI doesn’t guess — it uses real information from tools, like actual weather data or correct math solutions.
* **Saves Time**: Tools can quickly do tasks like searching the internet or calculating numbers.
* **Does Many Things**: Tool Calling lets the AI handle all kinds of tasks, like:
* Solving math problems.
* Finding real-time info (like news or prices).
* Controlling devices (like turning on a smart light).
* Getting data from websites (like flight times).

**What Are Tools and Functions in AI Models?**

*In AI, tools or functions are like helpers — small programs or services that the AI can use to do specific tasks. Think of them as apps on your phone: just like you use a calculator app for math or a weather app for forecasts, an AI uses tools/functions to get information or perform actions it can’t do on its own.*

**Why Are Tools/Functions Important for AI?**

* **Accuracy**: They ensure the AI uses real, reliable data instead of guessing.
* **Real-Time Info**: They let the AI access live information, like weather, news, or prices.
* **More Capabilities**: They allow the AI to do things beyond just talking, like controlling devices or making bookings.
* **Better User Experience**: They make the AI more helpful by providing precise and useful answers.

**Using @function\_tool with OpenAI Agents SDK:**

*“The @function\_tool decorator in the OpenAI Agents SDK turns a Python function into a tool that an AI agent can use to perform tasks like fetching data or doing calculations. It creates a description and input structure for the function, making it easy for the AI to call it.”*

The **@function\_tool** decorator is part of the OpenAI Agents SDK, which is a Python-based framework for building AI agents that can perform tasks and collaborate with tools. When you use **@function\_tool**, it does the following:

1. **Turns Your Function into a Tool**: It takes your Python function and makes it something the AI can call.
2. **Creates a Schema**: It automatically figures out the function’s name, description, and input parameters (from the function’s code and docstring) so the AI understands what the tool does and what inputs it needs.
3. **Integrates with the Agent**: You add the tool to an AI agent, and the agent can call it when it needs to perform the task your function is designed for.
4. **Handles Inputs and Outputs**: The AI sends inputs to the function, gets the result, and uses it to answer your question or complete a task.

**Role**:

* Makes AI more powerful by connecting it to tools.
* Provides accurate, real-time answers using external

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