

LLM Agents

Concepts | Examples | Code Demo



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Recap on Agents

What are **Agents**?

Agents are **LLM systems** that can work with **tools** and a **base LLM model** to iteratively and in a step-by-step manner reason through information to arrive at an answer

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Agent Components

LLM Model
Tools (environment or APIs)
Instructions

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When use **Agents**?

When the tasks are complex enough that they need to be broken down into multiple steps and a single API call of an **LLM won't suffice for the task!**

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Example use-case for **Agents**

Given a **topic**, summarize news on a that **topic** in the past one month. Assume that there are **multiple news APIs** to choose from depending on the topic.

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When **not to** use **Agents**?

When the task can be subsumed into a **single LLM call** with appropriate prompt and a **context** and/or Retrieval through a **RAG**.

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Example use-case for **not using Agents**

Given a **topic**, summarize news on a that **topic** in the past one month from a **specific news API**

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By Modality

Data Agents
Action Agents
Orchestration Agents

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By Application

Coding Agents
Weather Agents
Fintech Agents

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By Complexity

Single Agent Systems
Multi-Agent Systems

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Single Agent Systems

LLM Model

Multiple Tools

Instructions for each Tool

Looping module until termination

3. Types of Agents

Multi Agent Systems

LLM Model

Multiple Agents

Instructions for each Agent

Handoff capabilities between Agents

Triaging/Master Agent

Breakout in 3: Collaborating on Agents

Assume that you work at a company and an org that has hundreds of tools available for use internally and also made available through a platform, externally. Say each engineering tool comes with an agent that can be queried through a chat interface. Say you are a team that wants to derive insights on bugs that get filed on a production application you manage. How would you set up an interface to interact with the available agents to triage and do an initial investigation? Pick a real-world business example and break it down step by step. Next, assume you want to make this interface tool available to others. What would you have other owners specify for them to start triaging with the interface you built?

Safety in Numbers?



4. Single LLM Agent Coding Exercise

https://colab.research.google.com/drive/1YkL-dza6gnDUdwMGeM0-4SU_PKsffkGz?usp=sharing

References

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