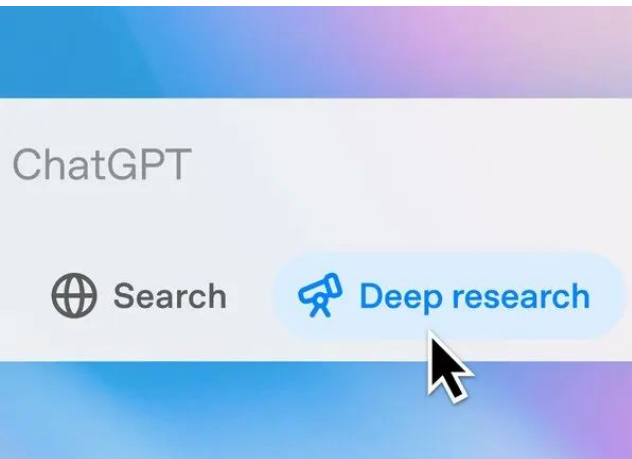


Deep Research From Scratch



LangChain



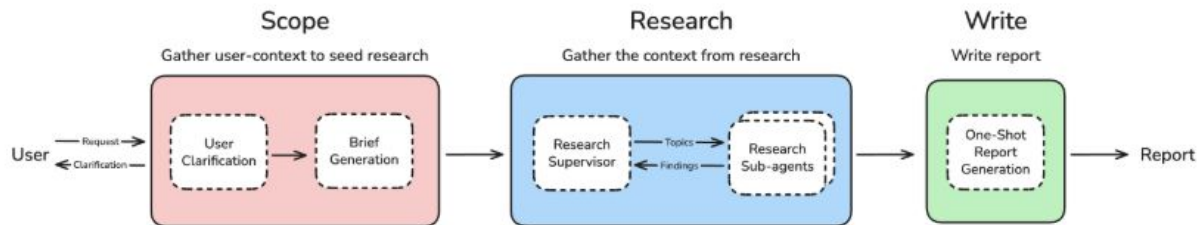
Research requires variable research strategies and levels of search depth.

<https://blog.langchain.com/open-deep-research/>

Agents can flexibly explore different research strategies / search depth.

<https://langchain-ai.github.io/langgraph/tutorials/workflows/#agent>

## Open Deep Research



Deep research has broken out as one of the most popular agent applications. This is a simple, configurable, fully open source deep research agent that works across many model providers, search tools, and MCP servers.

- Read more in our [blog](#)
- See our [video](#) for a quick overview

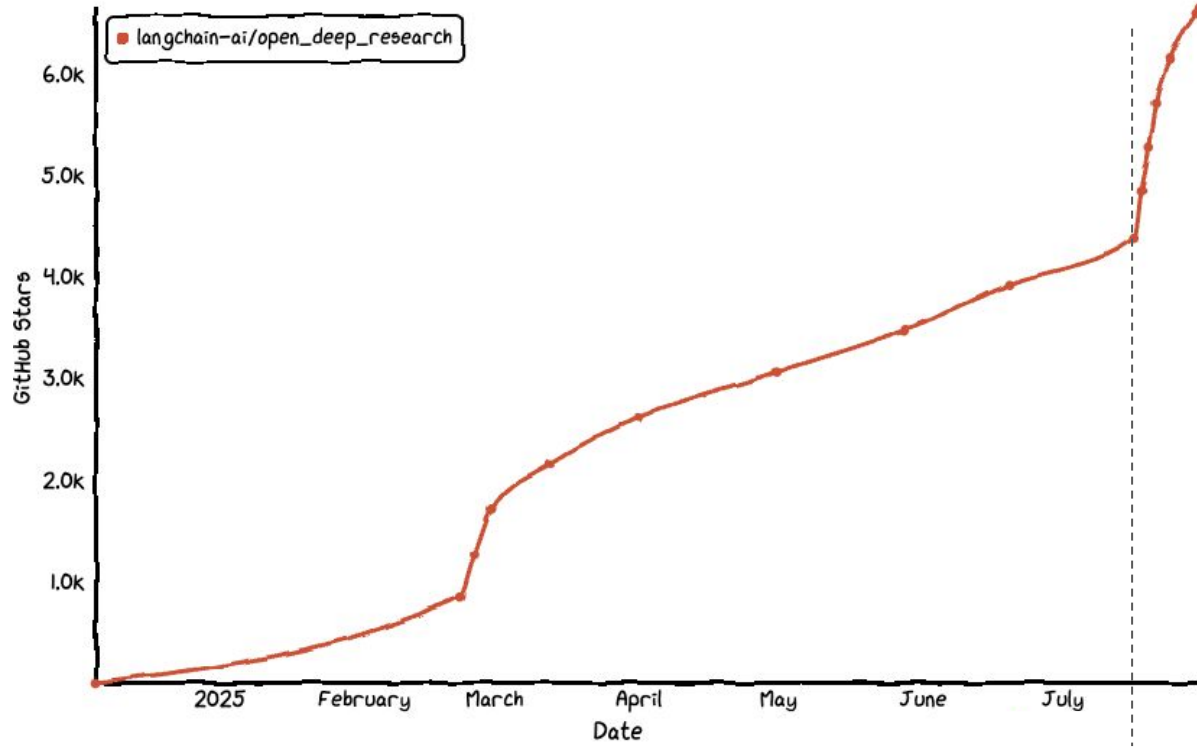
### Quickstart

1. Clone the repository and activate a virtual environment:

```
git clone https://github.com/langchain-ai/open_deep_research.git
cd open_deep_research
uv venv
source .venv/bin/activate # On Windows: .venv\Scripts\activate
```



### Star History



# DeepResearch Bench: A Comprehensive Benchmark for Deep Research Agents

The research aims to comprehensively evaluate the capabilities of Deep Research Agents.

[Code](#) | [Website](#) | [Paper](#) | [Eval Dataset](#) | Total models: 21 | Last Update: 02 August 2025

Race judge model: gemini-2.5-pro | Fact-checking models: gemini-2.5-flash

**Leaderboard** Side-by-Side Viewer Data Viewer Prompt-to-Leaderboard

Model Search

Entering model name to search...

Model Categories



Deep Research Agent



LLM with Search

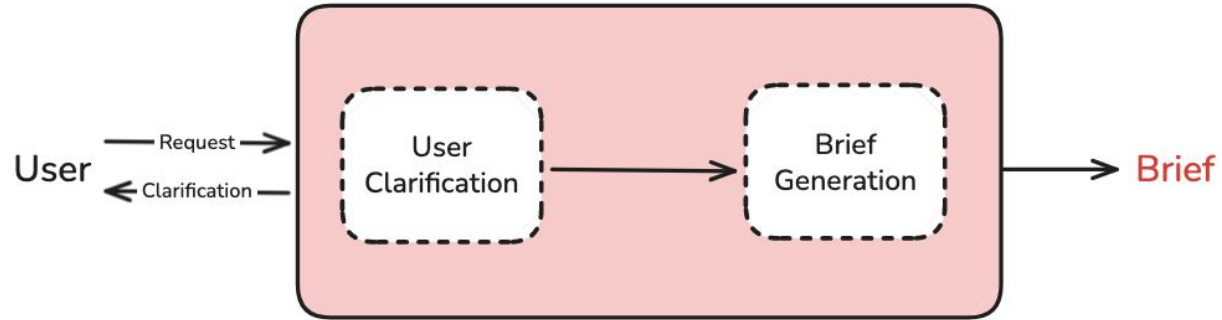
Rank	model	overall	comp.	insight	inst.	read.	c. acc.	eff. c.	category	license_type
1	gemini-2.5-pro-deeppresearch	49.71	49.51	49.45	50.12	50	78.3	165.34	Deep Research Agent	Proprietary
2	openai-deeppresearch	46.45	46.46	43.73	49.39	47.22	75.01	39.79	Deep Research Agent	Proprietary
3	claude-research	45	45.34	42.79	47.58	44.66	-	-	Deep Research Agent	Proprietary
4	kimi-researcher	44.64	44.96	41.97	47.14	45.59	-	-	Deep Research Agent	Proprietary
5	doubao-deeppresearch	44.34	44.84	40.56	47.95	44.69	52.86	52.62	Deep Research Agent	Proprietary
6	langchain-open-deep-research	43.44	42.97	39.17	48.09	45.22	-	-	Deep Research Agent	MIT
7	nvidia-aiq-research-assistant	40.52	37.98	38.39	44.59	42.63	-	-	LLM with Search	Apache 2.0
8	perplexity-Research	40.46	39.1	35.65	46.11	43.08	82.63	31.2	Deep Research Agent	Proprietary
9	grok-deeper-search	38.22	36.08	30.89	46.59	42.17	73.08	8.58	Deep Research Agent	Proprietary
10	sonar-reasoning-pro	37.76	34.96	31.65	44.93	42.42	45.19	9.39	LLM with Search	Proprietary
11	sonar-reasoning	37.75	34.73	32.59	44.42	42.39	52.58	13.37	LLM with Search	Proprietary
12	claude-3-7-sonnet-with-search	36.63	35.95	31.29	44.05	36.07	87.32	24.51	LLM with Search	Proprietary
13	sonar-pro	36.19	33.92	29.69	43.39	41.07	79.72	16.75	LLM with Search	Proprietary
14	gemini-2.5-pro-preview-05-06	31.9	31.75	24.61	40.24	32.76	-	-	LLM with Search	Proprietary
15	gpt-4o-search-preview	30.74	27.81	20.44	41.01	37.6	86.63	5.05	LLM with Search	Proprietary

<https://huggingface.co/spaces/Ayanami0730/DeepResearch-Leaderboard>

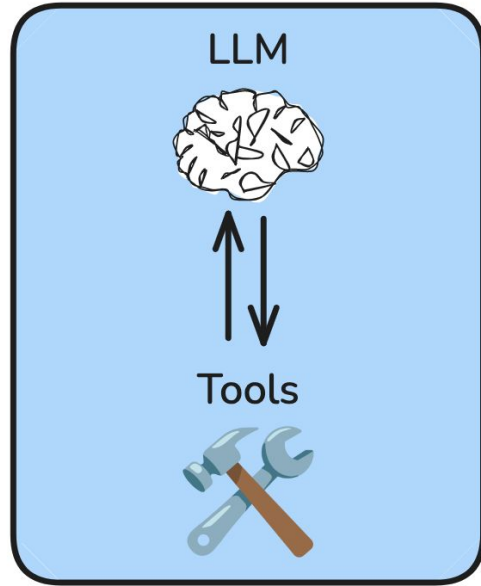




## Lesson 1: Scoping

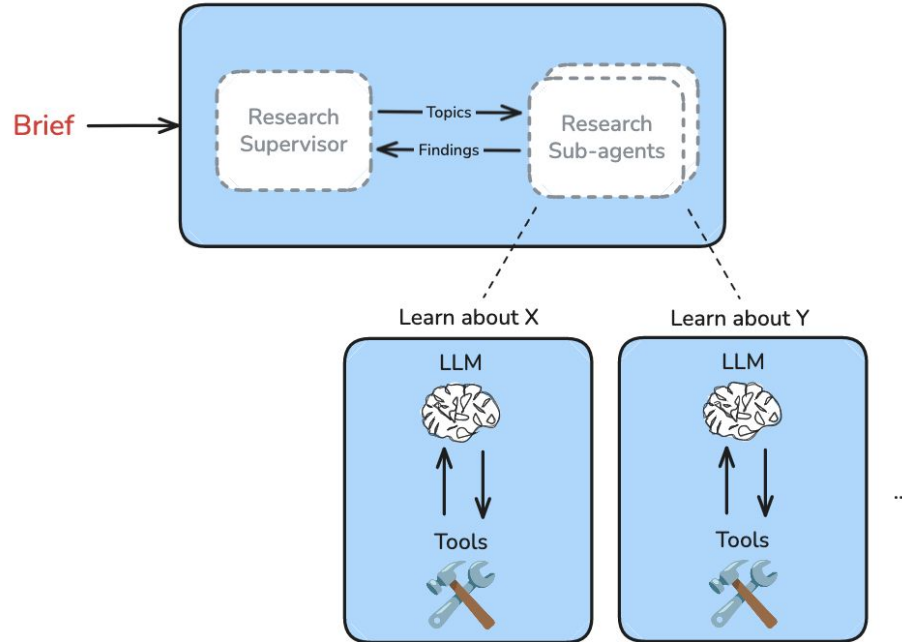


## Lesson 2 + 3: Research Agent (w/ MCP)



[https://github.com/langchain-ai/deep\\_research\\_from\\_scratch/blob/main/notebooks/2\\_research\\_agent.ipynb](https://github.com/langchain-ai/deep_research_from_scratch/blob/main/notebooks/2_research_agent.ipynb)  
[https://github.com/langchain-ai/deep\\_research\\_from\\_scratch/blob/main/notebooks/3\\_research\\_agent\\_mcp.ipynb](https://github.com/langchain-ai/deep_research_from_scratch/blob/main/notebooks/3_research_agent_mcp.ipynb)

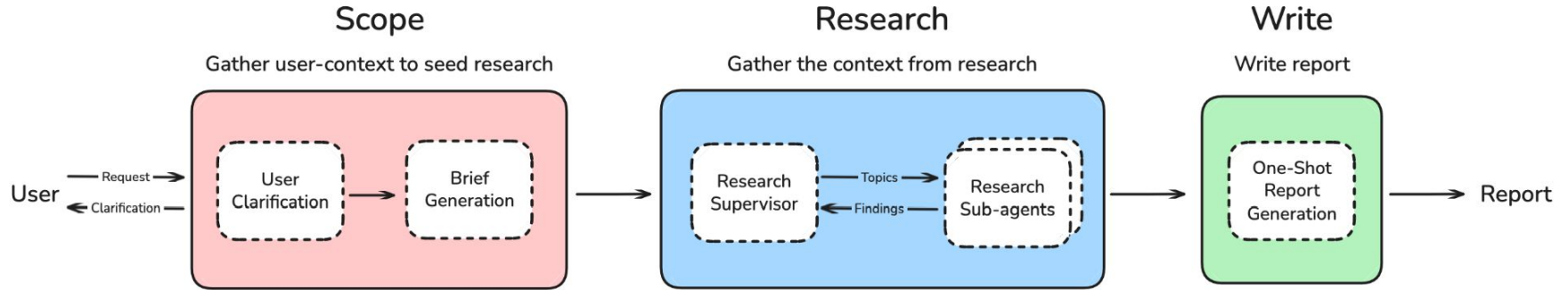
## Lesson 4: Research Supervisor



[https://github.com/langchain-ai/deep\\_research\\_from\\_scratch/blob/main/notebooks/4\\_research\\_supervisor.ipynb](https://github.com/langchain-ai/deep_research_from_scratch/blob/main/notebooks/4_research_supervisor.ipynb)

<https://www.anthropic.com/engineering/built-multi-agent-research-system>

## Lesson 5: Full system



**What you will learn:**

Design decisions: Why / How behind design decisions.

Research agents: Agent design / prompting / using MCP.

Multi-agent systems: Multi-agent design / prompting.

Evaluation: Evaluating sub-components.

## **Prerequisites**

**Familiarity with LangGraph / LangSmith**

## **Quickstart for LangGraph**

<https://langchain-ai.github.io/langgraph/tutorials/workflows/>

[https://www.youtube.com/watch?v=aHCDrAbH\\_go](https://www.youtube.com/watch?v=aHCDrAbH_go)

<https://www.youtube.com/watch?v=nyKvyRrpbyY>

## **Foundations for LangGraph/Smith**

<https://academy.langchain.com/courses/intro-to-langgraph>

<https://academy.langchain.com/courses/intro-to-langsmith>