

Introduction To LangSmith

Instructor

Dipanjan Sarkar

Head of Community & Principal AI Scientist at Analytics Vidhya

Google Developer Expert - ML & Cloud Champion Innovator

Published Author



Course Outline

- Understanding LangSmith
- Develop with more visibility
- Collaboration with teammates
- Test and evaluate LLM apps
- Monitoring in production

Understanding LangSmith

The screenshot shows the LangSmith interface. On the left, there's a sidebar with icons for a key, a document, and a 'H' (Help). The main area has a title 'AgentExecutor' with a 'Run' button. Below it, 'TOTAL TOKENS' is listed as 5,271. The 'RUN' section contains two tabs: 'HUMAN' and 'AI'. The 'HUMAN' tab shows the JSON input:

```
1 {  
2   "input": "how many  
3   points were scored  
4   in the 2023 super bowl than  
5   in the 2022 super bowl?"  
6 }
```

 The 'AI' tab shows the JSON output:

```
1 {  
2   "output": "The final  
3   score of the 2023 Super Bowl was Kansas City  
4   Chiefs 38, Philadelphia Eagles 35.  
5   The final score of the 2022 Super Bowl was Los Angeles  
6   Rams 23, Cincinnati Bengals 10.  
7   Therefore, the difference in points scored is 15.  
8 }  
9 15 more points scored.  
10 }
```

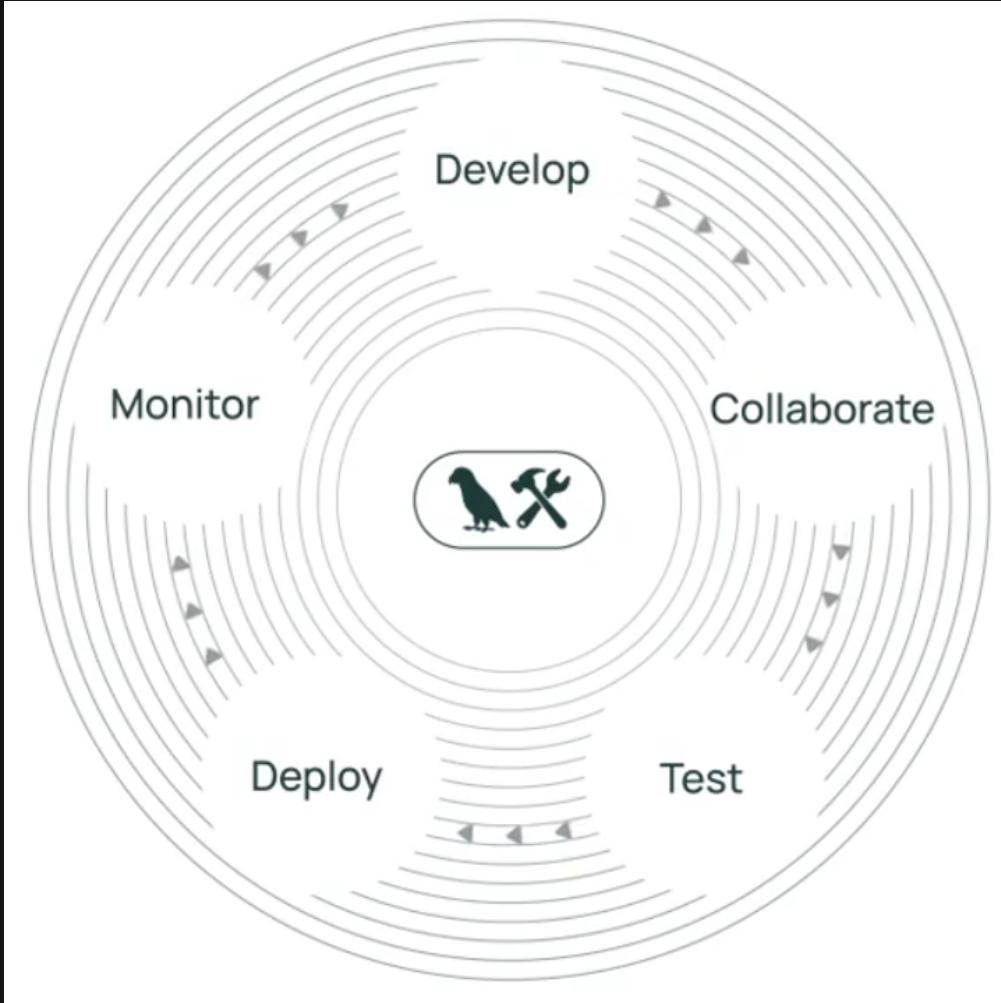
 To the right, a 'RUN TREE' panel displays the execution flow:

- Chain: AgentExecutor (13.57s, 5,271 tokens)
 - Chain: LLMChain (1.46s, 144 tokens)
 - LLM: ChatOpenAI (0.88s, 144 tokens)
- Tool: Search (2.87s)
- Chain: LLMChain (1.97s, 2,037 tokens)
 - LLM: ChatOpenAI (0.88s, 2,037 tokens)
- Tool: Search (3.50s)
- Chain: LLMChain

 Buttons for 'Rate run', 'Add to dataset', and 'Share' are visible.

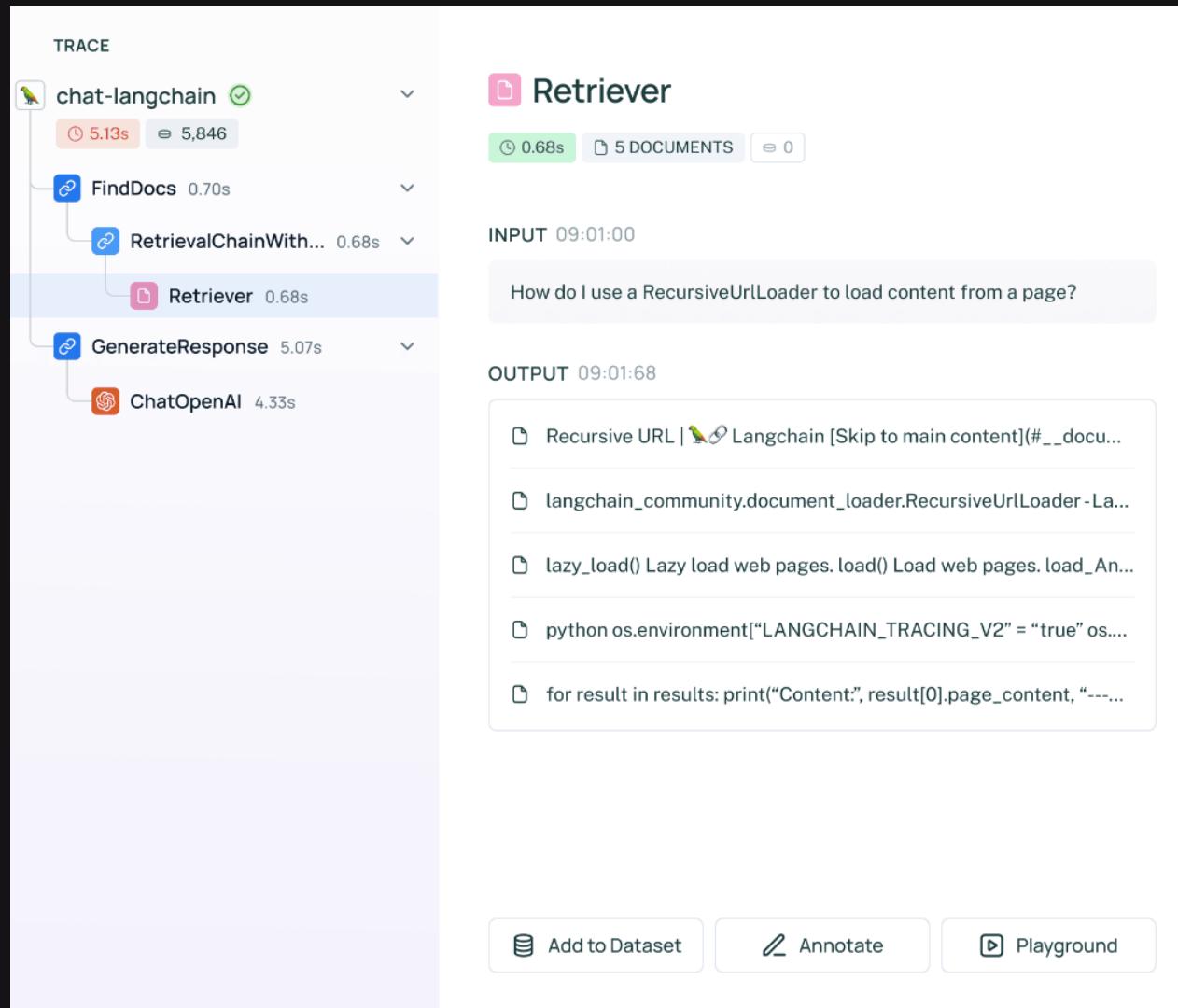
- LangSmith is a unified platform from LangChain, for debugging, testing, evaluating, and monitoring LLM applications
- Help you easily track changes, debug, run, and evaluate any LLM application and agents

Understanding LangSmith



- LangSmith enables you to create a project, link into your LLM apps, and then develop, collaborate, test, deploy, and monitor these apps.

Develop With More Visibility



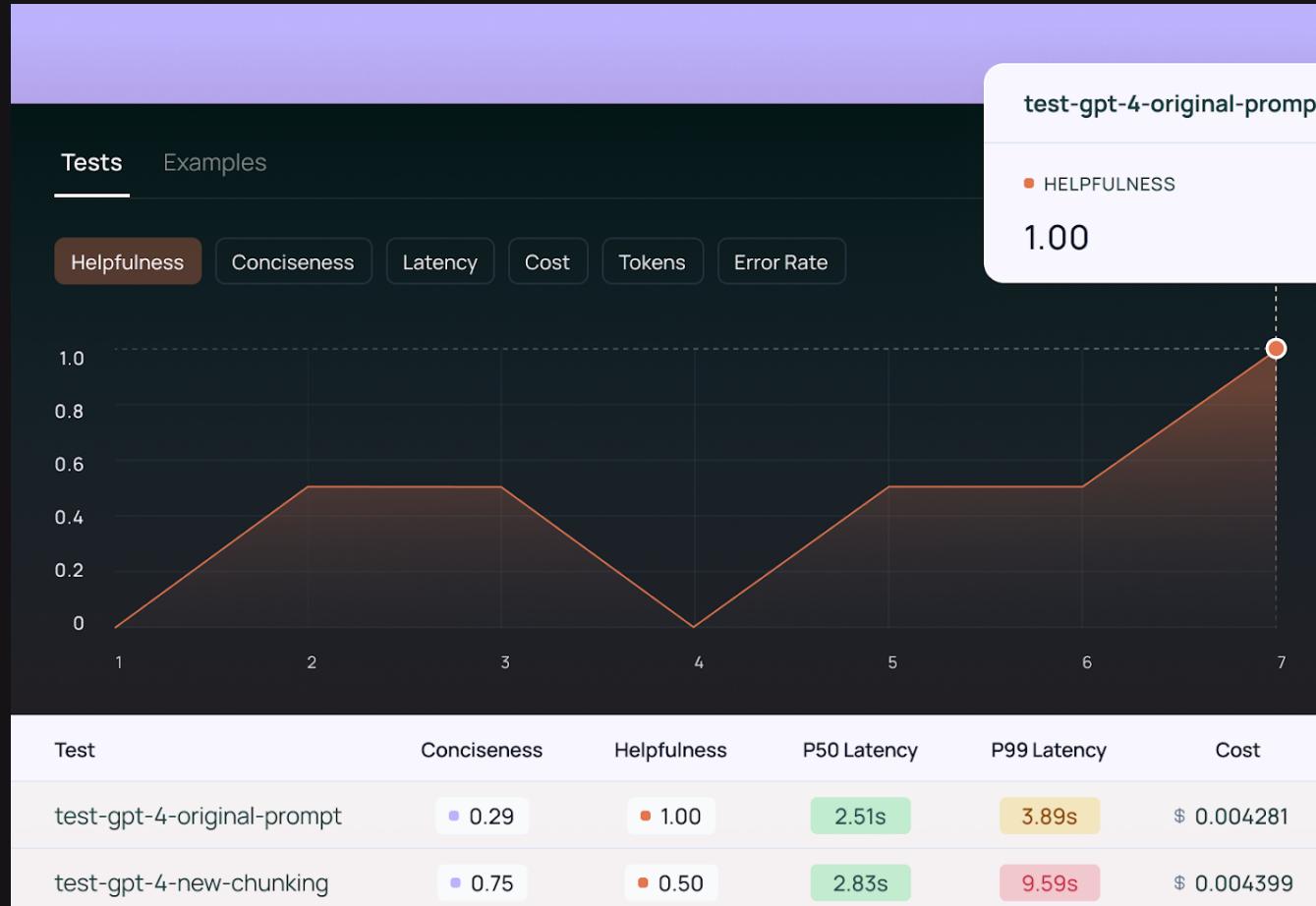
- LangSmith enables visibility into the entire sequence of calls
- Help find out errors and performance bottlenecks in the LLM applications
- Enable debugging and experimenting LLM apps with ease

Collaboration With Teammates

The screenshot shows the LangSmith interface. On the left, the 'ProductionTraces' dashboard displays metrics: TOTAL RUNS (578), TOTAL TOKENS (23,010), LATENCY (P99 1.20s, P50 3.20s), and FEEDBACK (helpfulness: 1.00, coherence: 1.00, relevance: 1.00). Below this is a table of 'Runs' with columns: Name, Input, Latency, and Feedback. The table lists five entries, all from 'LLMChain'. On the right, a 'Filters' sidebar is open, showing various filtering options: Full-Text Search, Feedback (Conciseness, Correctness, Relevance, Harmfulness), Feedback Source (App), Name (LLM Chain), Run Type (Chain), Status (Success, Pending), and Other (Latency >= 10s, Tokens >= 1,000).

- LangSmith enables the sharing of useful insights about LLM applications within a team for collaborative development.
- Allows sharing of LLM app's traces (runs) within a team.
- Team can use the LangSmith Hub to craft, version, and collaborate on prompt templates.
- LangSmith also has Annotation Queues to add human labels and feedback on traces.
- LangSmith allows the construction of datasets from production data or existing sources for evaluations, few-shot prompting, fine-tuning, and more.

Test & Evaluate LLM Apps



- LangSmith enables human feedback on the LLM app or uses AI-assisted evaluation methods.
- Test the LLM app on reference LangSmith datasets.
- Supports both offline and online evaluation to test for problems and drift
- It contains many pre-built and custom evaluators to check relevance, correctness, harmfulness and more.

One-Click Deployment

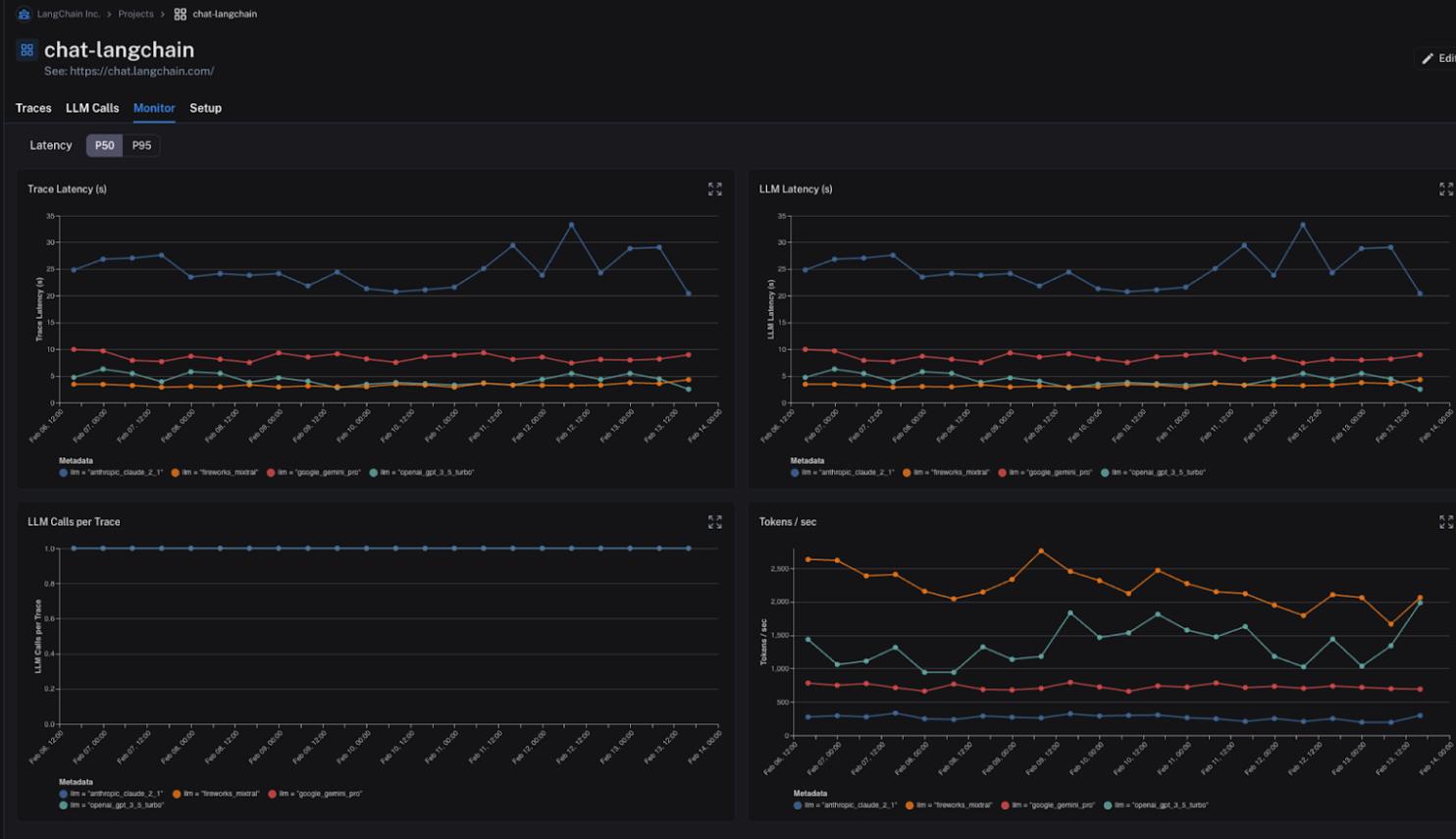
chat-langchain

+ New Revision ➔ Playground

Revision	Created	Actions
870c2782-422a-44bc-923e-84712c918aba Building...	2 min ago on master	Interrupt
9cc5c887-9440-42d5-ba58-216793e2fccf Currently deployed	1d ago on master	Redeploy
f114e2c6-0936-40ab-a6b7-39f5aed37a18 Previously Deployed	4d ago on master	Redeploy
41cbe9fd-89fb-4e35-ada1-fad321686186 Revision interrupted	5d ago on master	Redeploy
f114e2c6-0936-40ab-a6b7-39f5aed37a18 Previously Deployed	6d ago on master	Redeploy

- Easily deploy your LLM apps with hosted LangServe.
- Enables visibility into usage, errors, performance, and costs when you ship within the LangSmith platform.
- Built-in parallelization, fallbacks, batch, streaming, and async support.

Monitoring in Production



- LangSmith provides visibility on what's happening with the production application.
- Provides monitoring charts that allow tracking key metrics over time
- Allow to view charts such as Trace Latency, Tokens/Second, Cost, and feedback.

Thank You
