

大模型应用开发框架 LangChain (上)

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Google Developer Experts
LangChain Developer



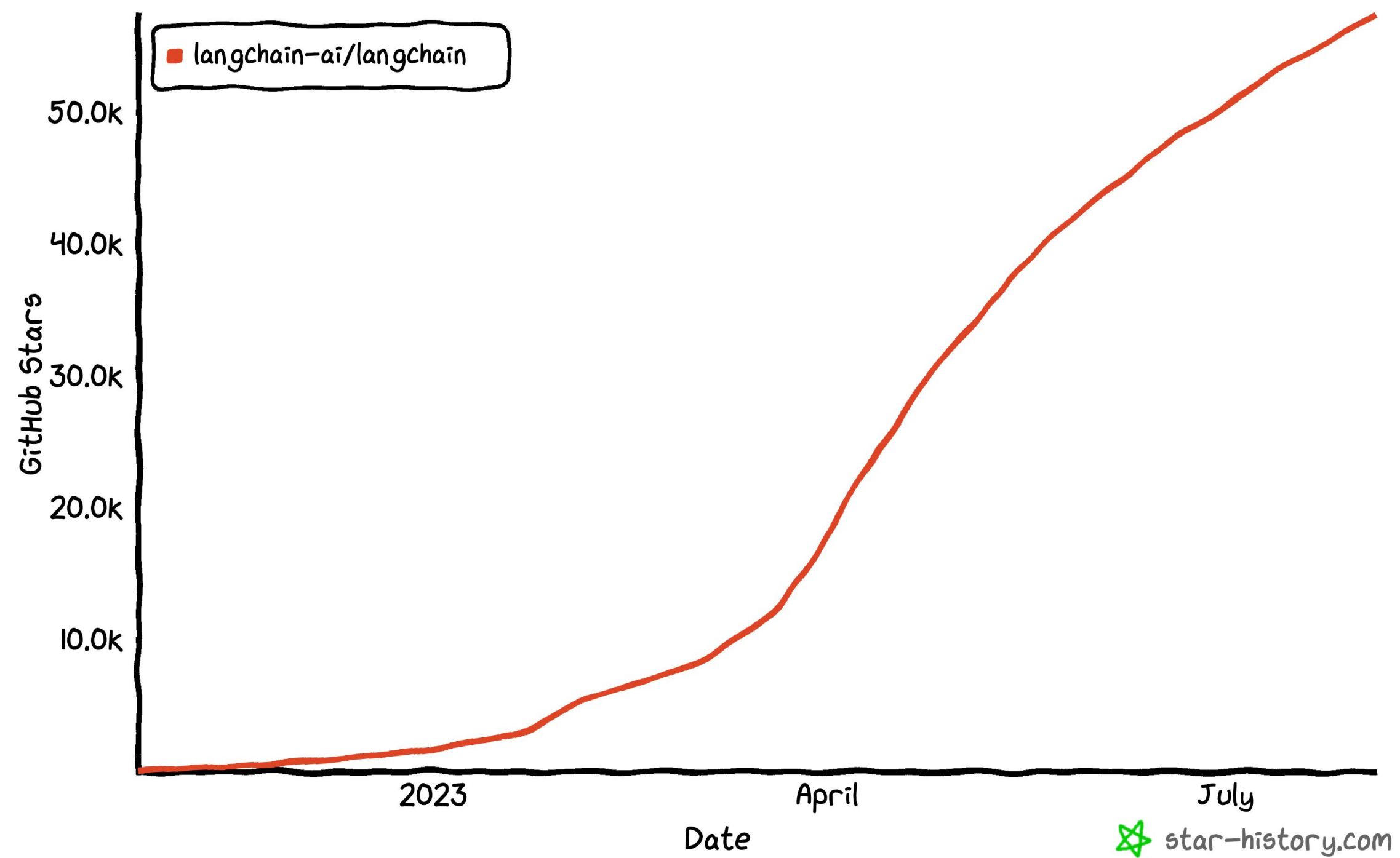
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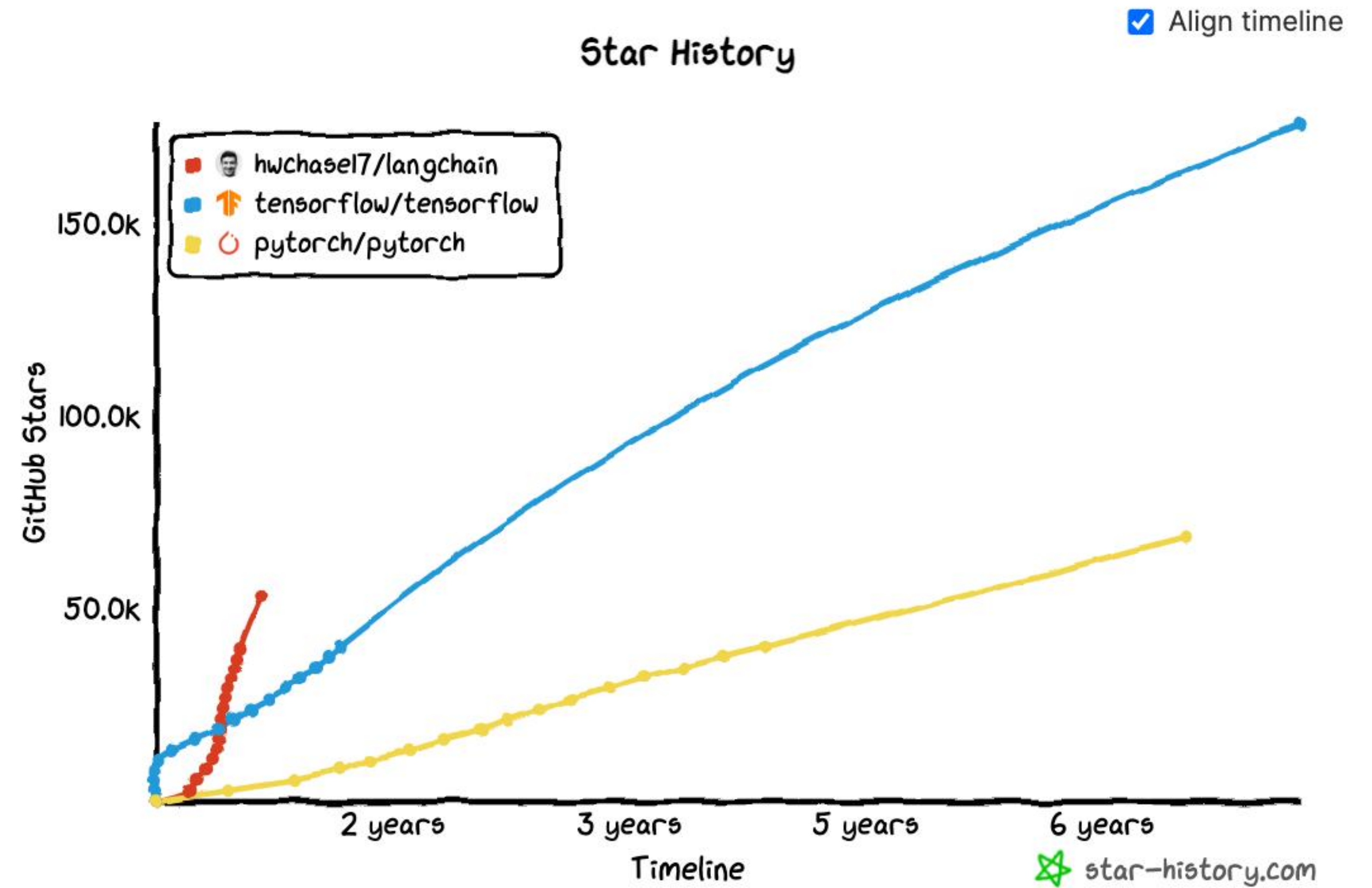
LangChain 是什么？

LangChain: 一个快速崛起的开源项目

Star History



Star History



LangChain: 通过组合模块和能力抽象来扩展 LLM 的助手



⚡ Building applications with LLMs through composability ⚡

release **v0.0.251** **libs/langchain CI passing** **libs/langchain-experimental CI passing** **downloads/month 4M**

License **MIT** **Follow @LangChainAI** **LangChain** **Dev Containers Open** **Open in GitHub Codespaces**

Stars 57k **dependencies up to date** **open issues 2.2k**

Looking for the JS/TS version? Check out [LangChain.js](#).

Production Support: As you move your LangChains into production, we'd love to offer more hands-on support. Fill out [this form](#) to share more about what you're building, and our team will get in touch.

🔴 Breaking Changes for select chains (SQLDatabase) on 7/28

In an effort to make `langchain` leaner and safer, we are moving select chains to `langchain_experimental`. This migration has already started, but we are remaining backwards compatible until 7/28. On that date, we will remove functionality from `langchain`. Read more about the motivation and the progress [here](#). Read how to migrate your code [here](#).

Modules

Model I/O

Data connection

Chains

Memory

Agents

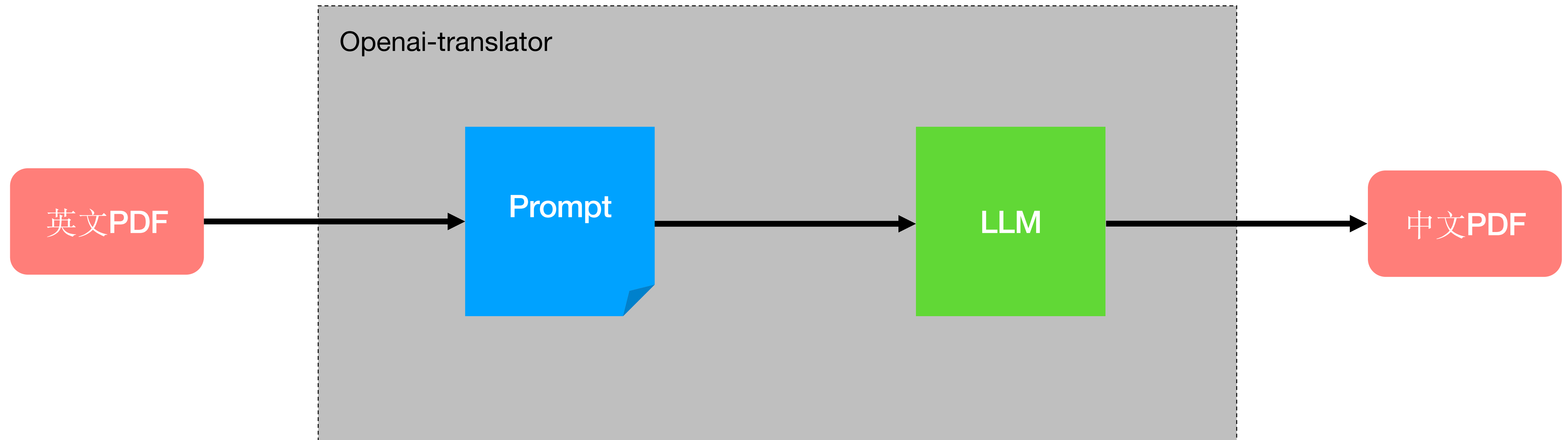
Callbacks

为什么需要 **LangChain** ?

Question: 为什么开发者要用 LangChain 而不是直接使用 OpenAI 或者 Hugging Face 上的模型?

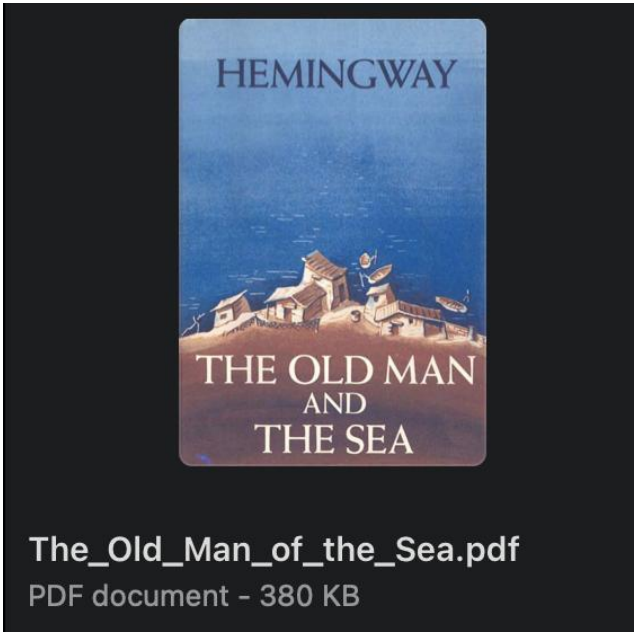
Harrison: Hugging Face、OpenAI、Cohere 可以提供底座模型和 API，但是在产品中集成和使用它们仍然需要大量的工作。

openai-translator 项目是典型的 LLM 应用实践



以 openai-translator 应用为例

待翻译文件



ArgParser

加载



导出



PDFTranslator

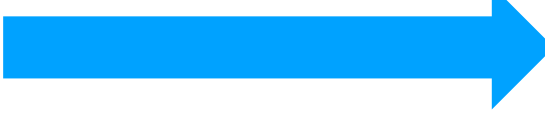
Logger

PDFParser

Writer

PromptTemplate

翻译 Prompt



LLMs

GPT

译文结果



GPT-4 很强，但还不够

Max Token 限制

私有化模型

没法查询数据库

数据截止2021年Q3

GPT-4 很强，但还不够

不能调用第三方API

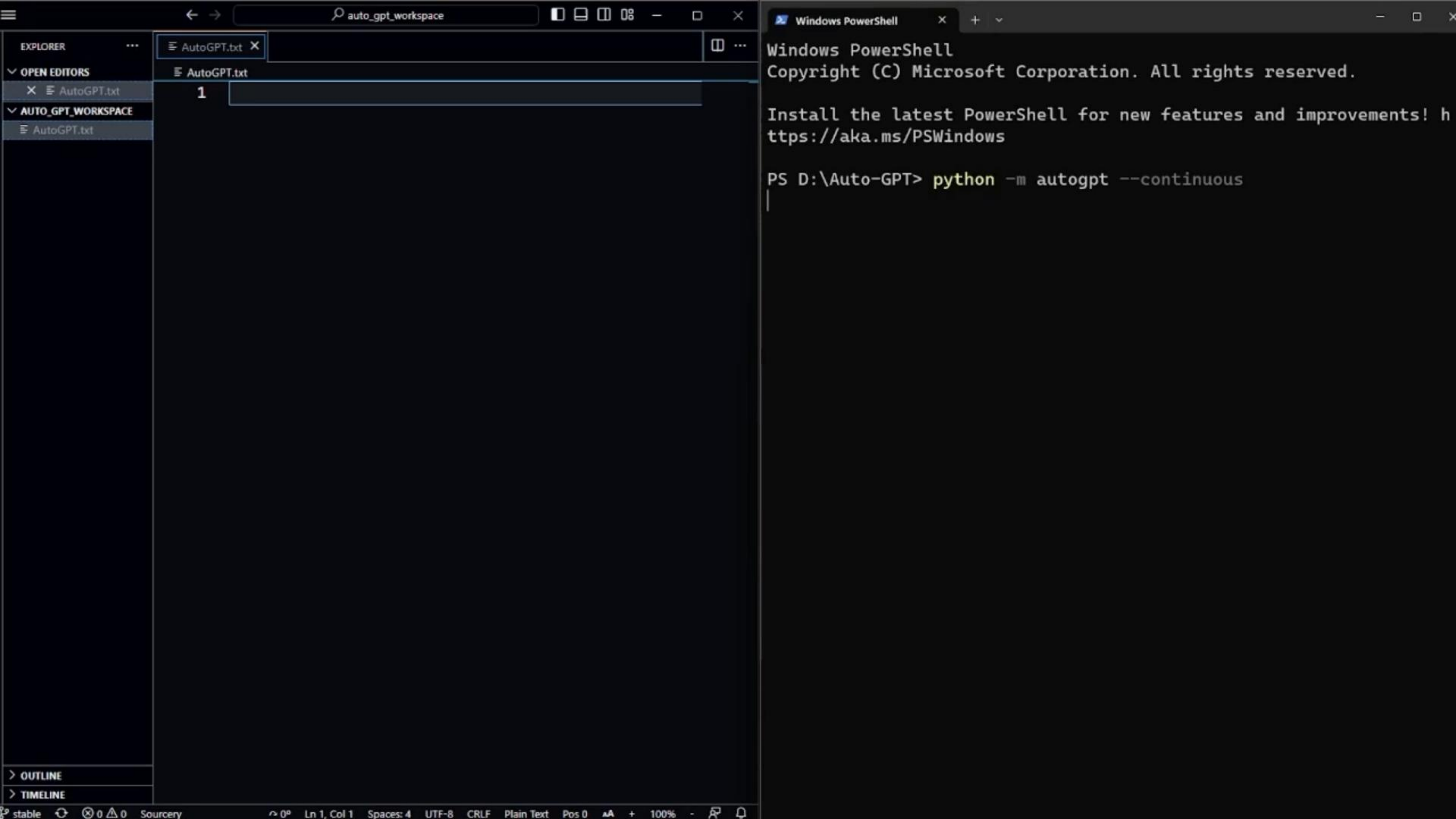
数据隐私

无法对接外部工具

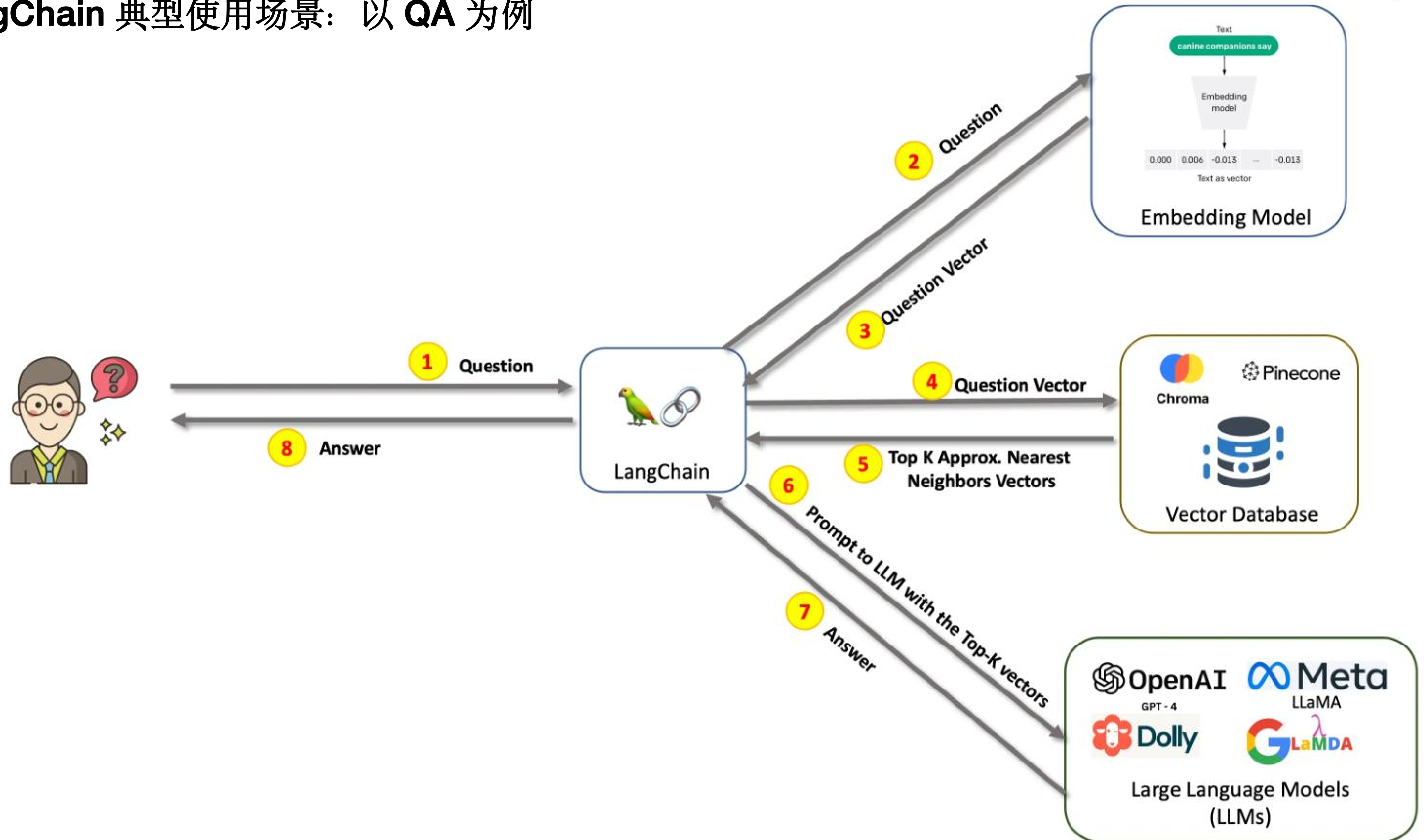
无法联网

输出结果不稳定

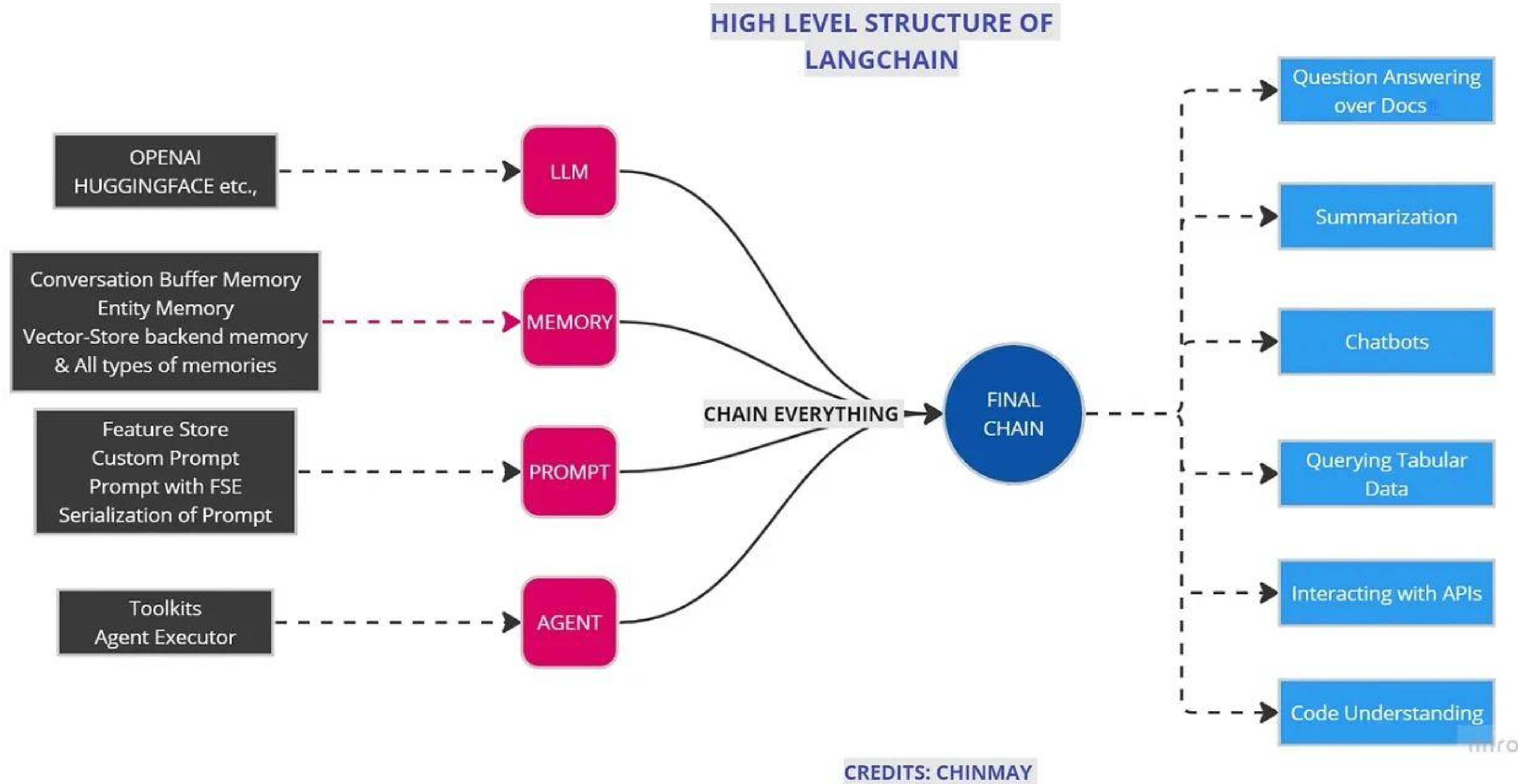
LLM App \neq GPT API Wrapper



LangChain 典型使用场景：以 QA 为例

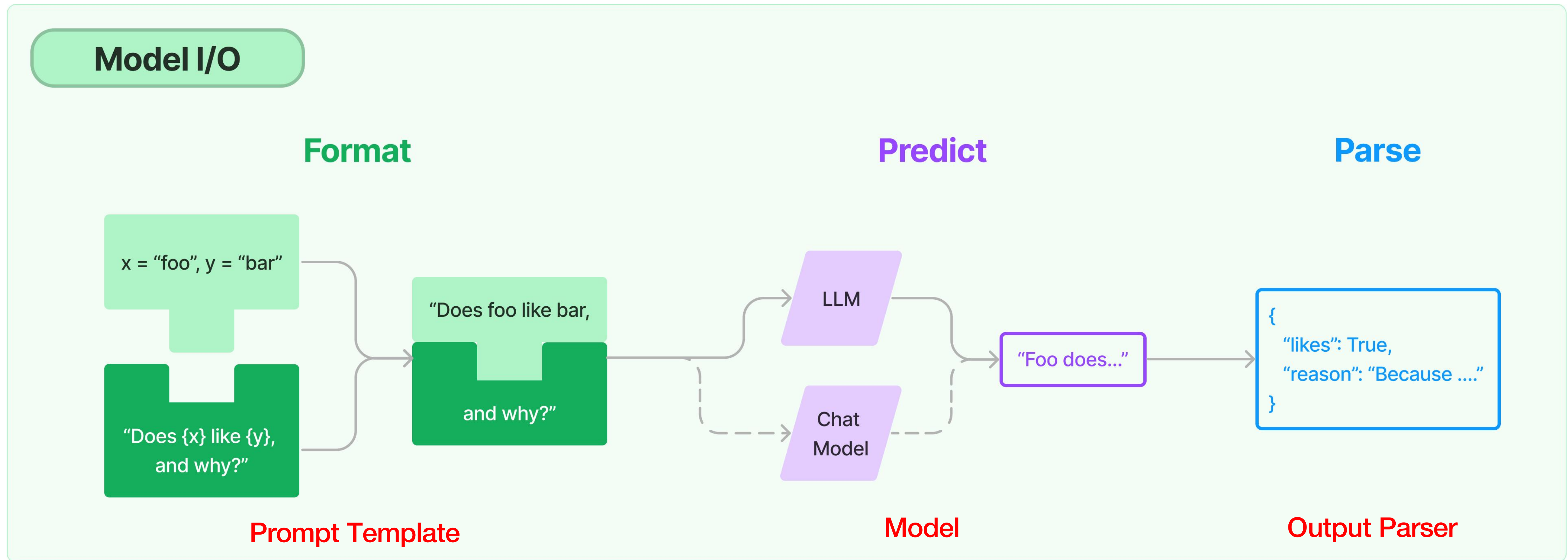


LangChain 基础概念与模块化设计

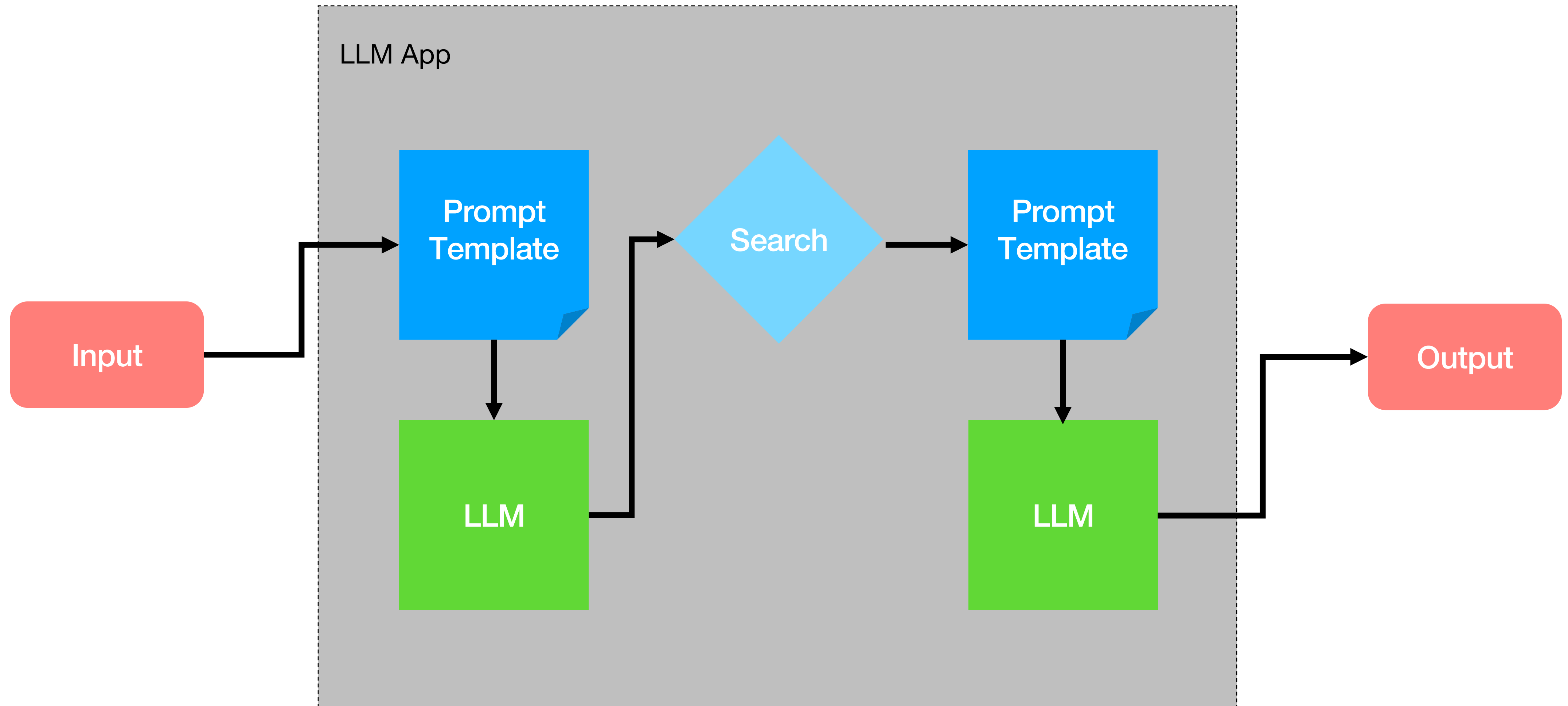


LangChain 核心模块入门与实战

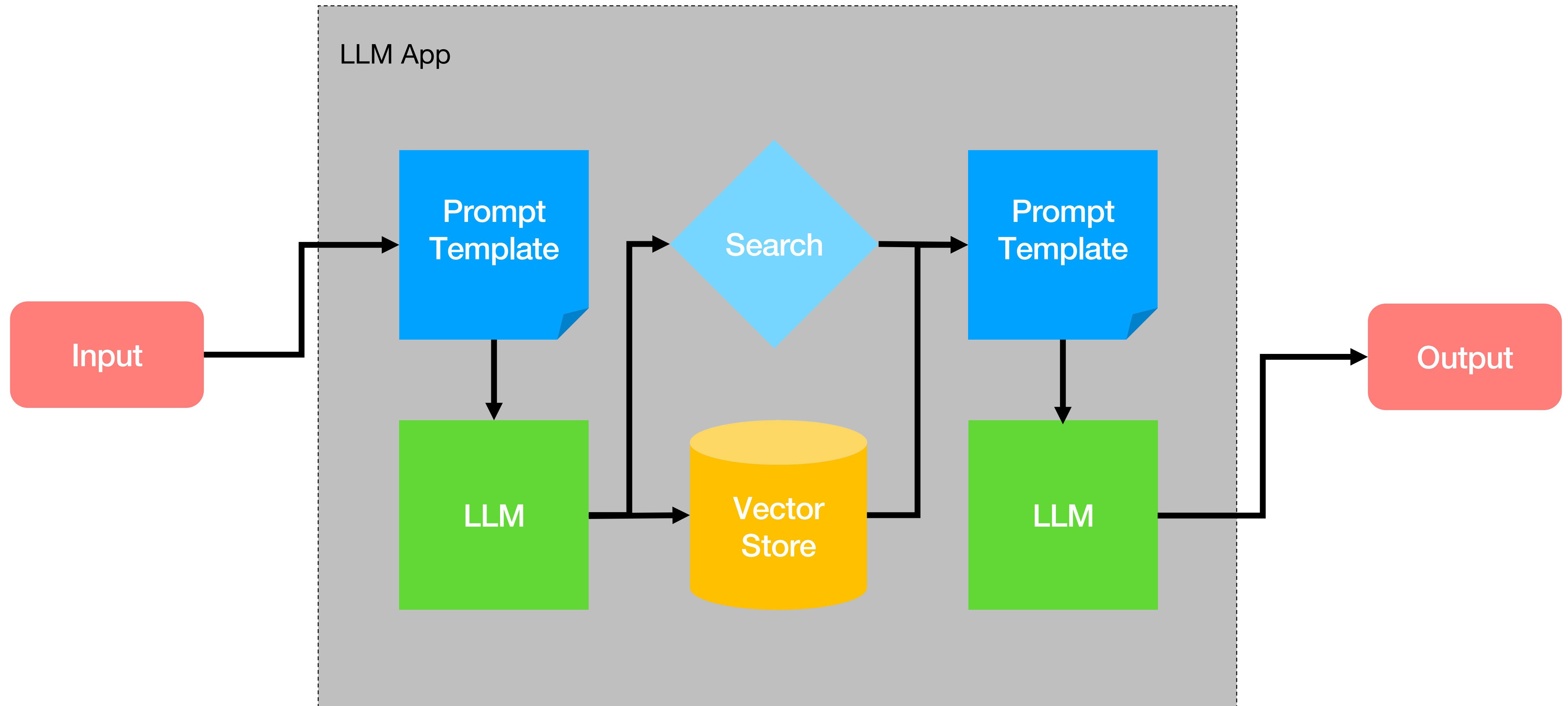
标准化的大模型抽象：Model I/O



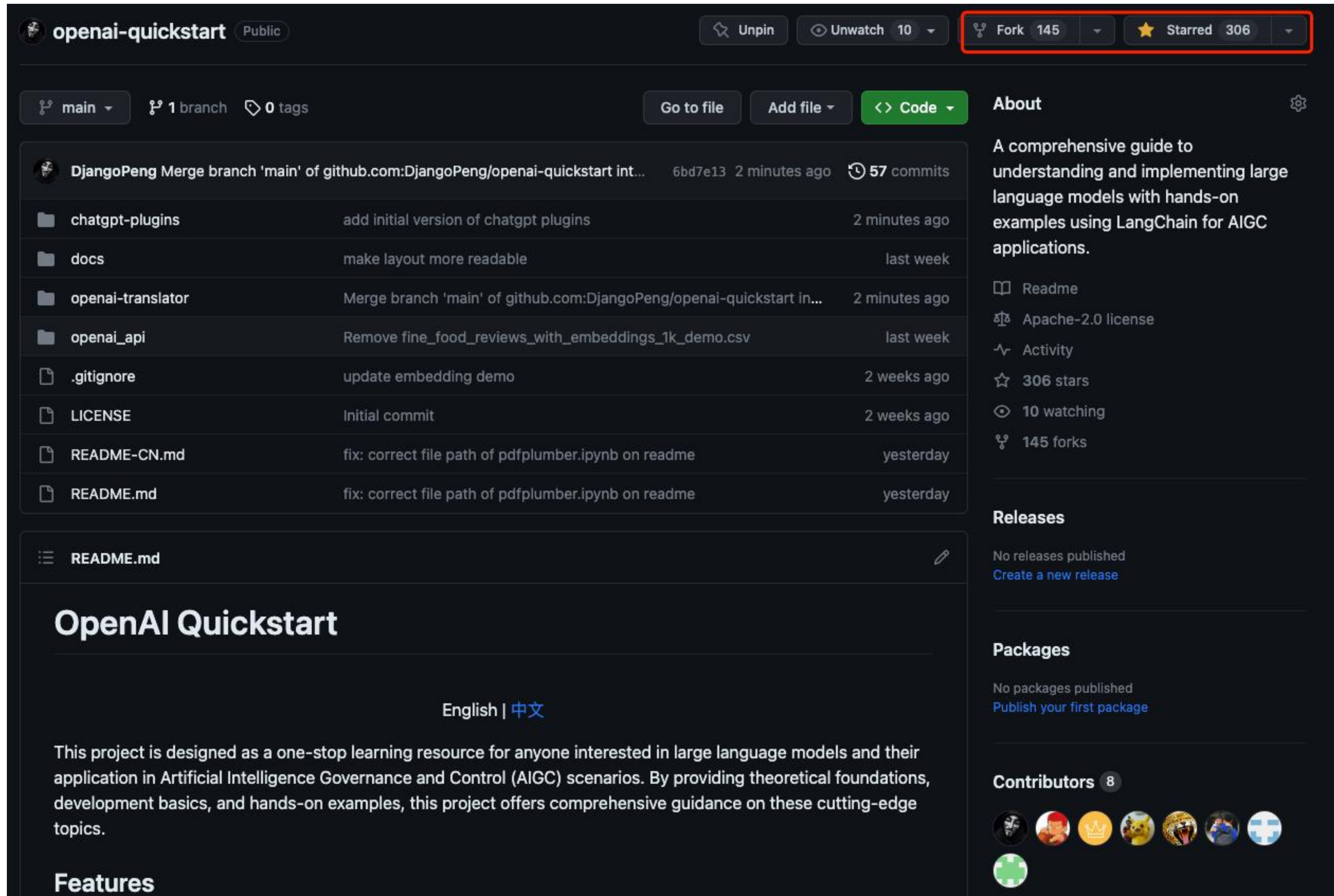
LangChain 设计：实现联网查询



LangChain 设计：结合联网与向量数据库



课程项目：GitHub openai-quickstart



openai-quickstart Public

Unpin Unwatch 10 Fork 145 Starred 306

main 1 branch 0 tags Go to file Add file <> Code

DjangoPeng Merge branch 'main' of github.com:DjangoPeng/openai-quickstart int... 6bd7e13 2 minutes ago 57 commits

- chatgpt-plugins add initial version of chatgpt plugins 2 minutes ago
- docs make layout more readable last week
- openai-translator Merge branch 'main' of github.com:DjangoPeng/openai-quickstart in... 2 minutes ago
- openai_api Remove fine_food_reviews_with_embeddings_1k_demo.csv last week
- .gitignore update embedding demo 2 weeks ago
- LICENSE Initial commit 2 weeks ago
- README-CN.md fix: correct file path of pdfplumber.ipynb on readme yesterday
- README.md fix: correct file path of pdfplumber.ipynb on readme yesterday

README.md

OpenAI Quickstart

English | 中文

This project is designed as a one-stop learning resource for anyone interested in large language models and their application in Artificial Intelligence Governance and Control (AIGC) scenarios. By providing theoretical foundations, development basics, and hands-on examples, this project offers comprehensive guidance on these cutting-edge topics.

Features

About

A comprehensive guide to understanding and implementing large language models with hands-on examples using LangChain for AIGC applications.

- Readme
- Apache-2.0 license
- Activity
- 306 stars
- 10 watching
- 145 forks


Releases

No releases published
[Create a new release](#)

Packages

No packages published
[Publish your first package](#)

Contributors 8



<https://github.com/DjangoPeng/openai-quickstart>

DEMO

“工欲善其事，必先利其器”

Deep Learning



TensorFlow



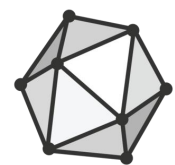
Keras



PyTorch



Caffe2



ONNX



OpenVINO™

Cloud-native



kubernetes



RANCHER®
BY SUSE



OPENSIFT®
by Red Hat™



docker



vmware



openstack®

OS



CentOS



Red Hat



ubuntu



Linux



android



Windows®



macOS®



ios

AIGC 应用开发生态

LLM
App



LangChain

Mobile
App



Web
App



Deep Learning



TensorFlow

K Keras

PyTorch

Caffe2

ONNX

intel OpenVINO

Cloud-native

kubernetes

RANCHER
BY SUSE

OPENS SHIFT
by Red Hat

docker moby
project

vmware

openstack

OS

CentOS

Red Hat

ubuntu

Linux

android

Windows

macOS
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