Langchain - Overview

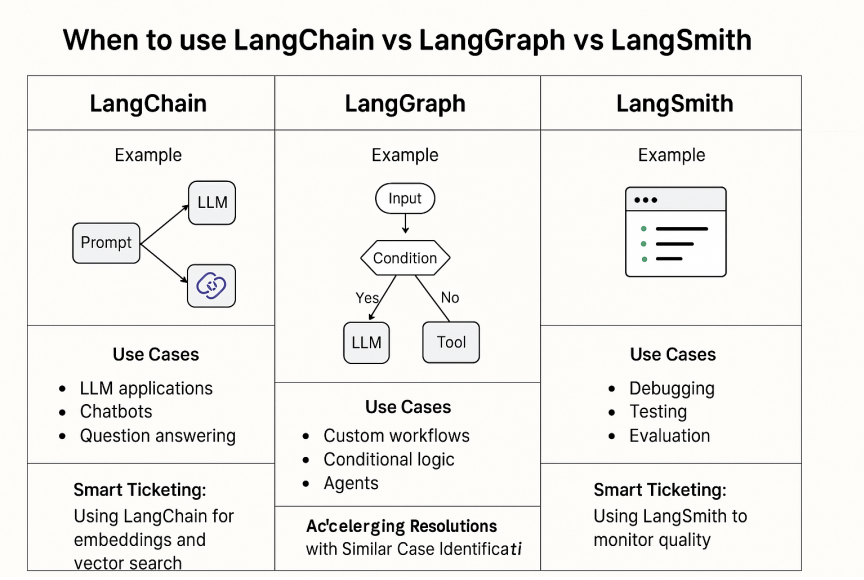
Thursday, 27 March 2025 8:52 PM

- What is LLM? Large Language Models are trained in predicting the next words that comes after a sentence.. Its super trained to find the next word probability and give us the result.
- LLM can be categorized into 2 types:
  - Agents
  - RAG (Retrieval Augmentation Generation)
- Prompt -> It is a guide to the LLM to generate a desired output
  - Part of prompt are instruction, context, output format and input data

Component	Why It Matters
Instruction	Tells the model the **goal** (e.g., classify, generate, summarize).
Context	Ensures the model has the **right background** or **assumptions**. Without it, the model may misinterpret.
Input Data	The **actual target content** to operate on.
Output Indicator	Helps the model understand the **expected format** or **starting point of the answer**, improving consistency.

- Chain of thought prompt:
  - Give a one-shot prompting and also
  - And to get to that result explain each step by step
    - E.g: Allen has 35rs he spent 10 for eating 5 for water and 7 for ticket, how much does he have?
    - Allen initially has 35rs, now he goes to eat and spends 10 so it becomes 25, … like this chain of thoughts..
    - So the next time a similar question is asked then it responds correctly
  - In this also 2 types:
    - Zero shot chain of thoughts by giving only one step and asking him to find
    - Few shot where we give step by step to make it understand the problem
- ReAct :: Reasoning and Acting

- Langchain Ecosystem:
  - Langsmith
  - Langgraph



Lang chain is an open source framework that simplifies the process of building LLM powered applications. It provides us with a set of tools and abstractions that make it easier for us to create complex LLM powered applications and link

with a set of tools and abstractions that make it easier for us to create complex LLM powered applications, and link chain was massively adopted by the industry, mostly by developers who want to build LLM based applications without really understanding how machine learning works or howto train models, but rather to use models as a black box.

And it's currently one of the most popular frameworks, if not the most popular frameworks, when developing LLM powered apps like agents and Rag applications,

Key Points About LangChain

- **Abstracts LM Interaction**: Provides a unified interface for interacting with Language Models (LM), allowing seamless switching between different chat models.
- **Vendor Independence**: Developers can switch between LM vendors easily, avoiding vendor lock-in.
- **Prompt Management**: Supports prompt creation, optimization, and serialization, allowing dynamic user input injection into templates.
- **Document Loaders**: Loads data from multiple sources (e.g., Notion, PDFs, emails) into a unified format for LLM processing.
- **Agents Ecosystem**: Enables LLMs to use tools like web search, database queries, and email sending, enhancing reasoning capabilities.
- **Modular & Flexible**: Offers abstractions like agents, executors, and link graphs for building complex LM-based applications.

To get linked in data as API :: https://scrapin.io/
Store and Mock API response :: https://gist.github.com/starred