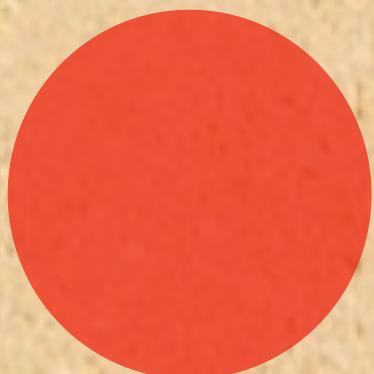


Module 1 - Topic 3

3.1 What is Langchain?





If orchestrated correctly,



We don't want to be limited by this!



Give me 3 tweets on World War I



1. "Today we remember the millions who lost their lives in the trenches of World War I. Let us honor their sacrifice and strive for a world where peace triumphs over conflict. #WWI #RemembranceDay" 🔗 🙌 🗞
2. "Reflecting on the profound impact of World War I, a war that reshaped global politics and left an indelible mark on history. Let us learn from the past and work towards a future of diplomacy and cooperation. #WorldWarI #HistoryLessons"
3. "In the midst of the centenary of World War I, we must never forget the lessons it taught us about the horrors of war and the importance of international collaboration. May we build a world where conflicts are resolved peacefully. #WWI #Peace"

Working with LLMs

To harvest full potential of LLMs - we need to control them better

- Using Models using APIs
- Prompt Templates
- Adding Tools and Agents
- Controlling Outputs

But...

Working with AI models is hard!

- Navigating different libraries
- Requires significant coding knowledge
- Integrating external data sources, tools, can be daunting

Langchain

- **Definition:** LangChain is an open-source framework designed to simplify the development of applications powered by large language models (LLMs).
- **Purpose:** It acts as middleware that connects LLMs with various data sources/tools making it easier to build intelligent applications without deep technical knowledge.

Components of Langchain

- **LLMs:** Powerful AI models that understand and generate human-like text, forming the core of LangChain applications.
- **Chains:** Sequences of linked operations, similar to steps in a recipe.
- **Memory:** Allows applications to remember past interactions, improving user engagement.
- **Prompt Templates:** Predefined formats that structure user input for better clarity.
- **Indexes and Retrievers:** Tools that efficiently organize and retrieve relevant data for LLMs.
- **Agents:** Intelligent components that choose actions based on user input, like a chef selecting dishes.

Benefits of Langchain

- Easy to use
- Apps in just few lines of code
- Integrations
- Great ecosystem
- Most popular LLM library in the world

```
from langchain_openai import ChatOpenAI  
  
model = ChatOpenAI(model = "gpt-4o-mini")  
  
response = model.invoke("Who are you?")  
  
print(response)
```

Alternatives to Langchain

- LlamaIndex
- Haystack
- Flowise
- Phidata
- LiteLLM

many more...