LangChain: Building your Personal ChatGPT

Learning Outcomes

By the end of this workshop you will:
1. Learn how to do prompt engineering as a LangChain developer
2. Understand vector databases and how to use them in LLM applications
3. Build your own complex LLM application with LangChain and OpenAI's API

Detailed 1-Day Workshop Schedule

Module	Topics	Build Activities
Introduction	**Introduction** ● Workshop Overview **LLM Application Stack Overview** ● OpenAI, ChromaDB, LangChain **Natural Language Processing Preliminaries** ● OpenAI, ChromaDB, LangChain	● Icebreaker Networking ● Interactive End-to-End "ChatGPT for Your Data" Demo ● **Hitting OpenAI's API**
LangChain and Prompt Engineering	**LangChain infrastructure overview** ● Indexes, chains, vector databases, agents **Prompt Engineering in LangChain** ● Building prompt chains	● Interactive Prompt Chain Walkthrough ● **Building Your Own Prompt Chain**
Indexing and Vector Databases	**Vector Databases** ● Traditional structured databases versus vector databases ● Setting up a vector database to quickly search PDF data **Building indexes** ● What is an index? ● Creating an index with LangChain	● Interactive Vector DB setup and index creation Demos ● **Data Collection, Processing, and index creation**

Break *(approx. 12pm PT)*	(30 min) **Lunch Break**	● 1:1 Consulting Available
Applications: Multi-Document Question Answering & Agents	**Question Answering** ● Virtual Assistants vs. Chatbots ● Additional components for multi-document solutions **Agents** ● Using chains that depend on user inputs	● Interactive Multi-document Demo ● Interactive Agent Demo
Build Time	● **Working Session - final submission required by 2:00 PM PT**	● 1:1 Consulting
Workshop Judging and Awards	**Announcements of Workshop Award Winners** **Workshop Certificates**	● **Assessing the Work of Other Teams**

* Activities in **Bold Pink** will be working sessions for you and/or your team! If you are an individual, we will pair you up with other individuals in a single breakout session.

About FourthBrain

FourthBrain trains engineers, developers, data scientists, and leaders to make an impact in the Artificial Intelligence field, with our flexible, accessible education programs. We are training a new generation of engineers and leaders who have more than just technical ability; they have an awareness and mindset of what is needed to succeed with AI. We are part of the AI Fund, founded by Andrew Ng.