



LLM RAG App:

In this project you will develop an LLM application that chats with you about the Turkish Constitution.

Features required to complete this project:

- Project should be implemented in Python
- Langchain and Langsmith is highly recommended. Langgraph is recommended however it is optional.
- Use Vector Databases for LLM's data source (Chroma is recommended).
- Try several prompting techniques (zero-shot, few-shot etc.)
- Optimize LLM prompts
- Add history of messages for LLM to remember previous conversations (i.e. LLM should be able to remember your name)
- A UI to chat with LLM is nice to have, talking from terminal is also okay
- In addition to readily available LLMs like ChatGPT or Claude, implement open-source LLMs into your project.

After finishing the features above, you may continue with the more advanced tasks below:

Advanced Tasks:

- Evaluate RAG performance and
- Detect hallucinations
- Add tools to improve user experience with the Turkish Constitution. For example you can add web-search tool if LLM cannot find good information from its vector database.

Useful Links:

- Langchain Python: <https://python.langchain.com/v0.2/docs/introduction/>
- Langchain Tutorial: [📺 LangChain Tutorial \(Python\) #1: Intro & Setup](#)
- Langchain RAG Tutorial: [📺 RAG From Scratch: Part 1 \(Overview\)](#)
- Langchain Youtube Channel: <https://www.youtube.com/@LangChain>
- Ollama: <https://ollama.com/>
- Turkish Constitution PDF:
https://www.anayasa.gov.tr/media/7258/anayasa_eng.pdf