Generative AI using LangChain: Overview

I. What is LangChain?

LangChain is defined as a crucial framework for building LLM-based applications.

- **Core Definition:** "LangChain is an open-source framework that helps in building LLM based applications."

- **Functionality:** It provides "modular components and end-to-end tools that help developers build complex applications such as chat bot, question answering systems, RAG based applications, autonomous agents and much more."

II. Key Features and Popularity of LangChain

- **Broad LLM Support:** LangChain supports "almost all major LLMs," including open-source and closed-source models from providers like OpenAI (GPT models), Anthropic (Claude models), and Google (PaLM models). It also integrates with Hugging Face and Ollama.

- **Simplified LLM Application Development:** It simplifies the development process through concepts like "Chains," enabling the creation of complex applications.

- **Extensive Integrations:** LangChain offers "wrappers" for seamless connection with various tools and services, such as databases, remote data sources, and deployment platforms, reducing boilerplate code.

- **Free and Open-Source:** It is a "free, open-source package" with active and rapid development (three versions released in 1-2 years), with "new components on a daily basis" being added.

- **Supports Major Generative AI Use Cases:** LangChain is an "all-rounder player" that assists in building all major Generative AI applications, including "chatbots, agents, RAG-based applications."

III. Rationale for Starting with LangChain

Why LangChain is the chosen starting point for the "User Side" curriculum:

- **Holistic View:** Learning LangChain provides a "holistic view" and a "flavor" of various other critical topics within the user-side landscape.

- **Versatility:** It allows users to work with both open-source and closed-source LLMs, integrate with LLM APIs, Hugging Face, and Ollama, and gain exposure to Prompt Engineering, RAG applications, AI agents, and even LLM Ops.

- **Empowering:** "LangChain ek baar aap acche se seekh gaye to aap bahut tarah ke Gen AI applications bana paoge," meaning once you learn LangChain well, you will be able to build many types of Generative AI applications, making it "very empowering."