AI Agents

Duration - 3 Days / 24 Hours

Program Description

This program provides a comprehensive overview of AI Agents, covering foundational concepts, frameworks, and practical applications. It begins with an introduction to AI Agents, agentic workflows, and reflections on their use. The program then explores essential tools such as memory management (MemGPT), function calling, ReAct planning, and multi-agent collaboration. It delves into various agentic AI frameworks, comparing LangGraph, Pydantic, and Crew AI, followed by a deep dive into LangGraph and LangChain. Advanced architectures and demos using Ollama, Groq, and Hugging Face are included. The use cases section focuses on AI-driven RAG, ethical considerations, COBOL-to-Python code translation, and agent-to-agent interactions using Fetch.ai and LLamaIndex.

Learning Goals

❖ Gain insights into the fundamentals of AI agents, agentic workflows, and reflection- based improvements.
❖ Learn how agents utilize tools, function calling, memory management, planning (ReAct), and collaborate in multi-agent environments.
❖ Explore different agentic AI frameworks, including LangGraph, Pydantic, and Crew AI, and their applications.
❖ Understand the architecture, advanced functionalities, and real-world applications of LangGraph and LangChain in AI agent development.
❖ Implement AI agents for real-world scenarios like agentic RAG, ethical AI considerations, and safety.
❖ Learn to analyze Cobol programs from GitHub, interpret them in English, convert them to Python, and execute them.
❖ Explore inter-agent communication using Fetch.ai, LLamaIndex, and other frameworks to build intelligent workflows

Course Topics

❖ Introduction to AI Agent

❖ Tool Use & Function Calling & ReAct
Multi-agent Collaboration

❖ Agentic AI Frameworks

❖ LangGraph Langchain

❖ AI Agent Use Cases

Modules will be customized to suit UPS related supply chain problem statements