UDACITY
Part of Accenture

SCHOOL OF ARTIFICIAL INTELLIGENCE

AI Agents with LangChain and LangGraph

Syllabus

UDACITY.COM

Overview

This course explores the use of LangChain and LangGraph for building advanced AI agent systems. It introduces learners to graph theory, state machines, and agentic systems, enabling them to build flexible AI-driven solutions for tasks such as knowledge retrieval using cyclical workflows.

Course | Intermediate | 13 hours | 5.0 (5 Reviews)

Prerequisites

Prior to enrolling, you should have the following knowledge:

REST APIs | OpenAI API | Advanced Python | Large Language Models

You will also need to be able to communicate fluently and professionally **in written and spoken English**.

Skills You'll Learn

Retrieval-Augmented Generation | AI Agents | LangGraph | LangChain

Courses

L1	Introduction to Agentic Frameworks	Unpack agentic frameworks by exploring key concepts, applications, and roles in shaping perceptions and behaviors within societal structures.
L2	Build with LLMs in LangChain	Explore the LangChain ecosystem, integrating large language models via APIs and libraries for dynamic app development. Gain practical skills for creating efficient chains.
L3	Agentic Workflows with LangGraph	Explore agentic workflows with LangGraph, where the agent controls flow dynamically. Learn to set up nodes, manage states, and integrate with LangChain for dynamic, reliable AI applications.
L4	Create a Knowledge Base Agent	Build a reliable AI Knowledge Base Agent by integrating data sources, ensuring expanded knowledge, and enhancing interaction through RAG pipelines and observability techniques.
L5	Project: HealthBot: AI-Powered Patient Education System	Develop an AI agent to enhance patient education by delivering personalized, on-demand health information through summaries, comprehension checks, and quizzes about relevant medical topics.

Meet Your Instructors

Henrique Santana

Principal Machine Learning Engineer at Dell Technologies

Henrique Santana is a Principal Machine Learning Engineer at Dell Technologies, specializing in AI implementation for digital businesses. With a strong background in Problem Solving with Data, he has extensive experience in data engineering, AI operations, and the development of autonomous AI agents. He is also a professor in MBA programs, teaching AI for business leaders. Passionate about technology, he explores Generative AI, LLM frameworks, and emerging AI architectures.

Why Udacity

Demonstrate proficiency with practical projects

Projects are based on real-world scenarios and challenges, allowing you to apply the skills you learn to practical situations, while giving you real hands-on experience

- ✓ Gain proven experience
- ✓ Retain knowledge longer
- ✓ Apply new skills immediately

24/7 access to real human support

Reviewers provide timely and constructive feedback on your project submissions, highlighting areas of improvement and offering practical tips to enhance your work

- ✓ Get help from subject matter experts
- ✓ Gain valuable insights and improve your skills
- ✓ Learn industry best practices