At a Glance

Master the three core Agentic AI design patterns in just one hour using cutting-edge frameworks like LangGraph and LangChain—tools that power today's most advanced multi-agent systems. Learn Sequential Agent Coordination for step-by-step workflows, Intent-Based Routing for intelligent task distribution, and Parallel Agent Execution for efficient, concurrent processing. With these frameworks, you'll build real-world AI applications such as job application assistants, customer support agents, research copilots, intelligent data routers, and multilingual AI translators.

Building AI apps that actually work together is harder than it looks.

Most developers get stuck trying to make multiple AI agents coordinate properly - one agent's output becomes gibberish to the next, workflows break down, and what should be intelligent systems end up being frustrating messes. Sound familiar? This hands-on project cuts through the complexity and shows you the proven patterns that actually work for building multi-agent AI systems.

You'll learn the three workflow patterns that power every sophisticated AI application you've ever used. Through real examples like smart job application helpers, automatic task routers, and lightning-fast translation systems, you'll see exactly how to make AI agents work together seamlessly. We'll walk you through Sequential Agent Coordination (where agents build on each other's work), Intent-Based Routing (smart systems that know where to send requests), and Parallel Agent Execution (getting multiple agents working at once) using LangGraph and LangChain.

You'll build actual working systems, not just toy examples. By the time you're done, you'll have hands-on experience creating AI workflows that can handle real complexity. You'll know when to use each pattern, how to make agents communicate properly, and most importantly - how to build systems that actually scale. No more wondering how those impressive AI demos actually work under the hood.

What You'll Learn

By the end of this project, you'll be able to:

- Build AI systems where multiple agents actually work together (instead of fighting each other)
- Create smart routing that automatically figures out what users want and sends them to the right place
- Set up parallel processing so your AI can handle multiple tasks simultaneously
- Design workflows that chain agents together for complex, multi-step processes

- Make agents communicate through proper state management (no more broken telephone)
- Build production-ready systems that can handle real-world messiness
- Know which pattern to use when (and avoid the common mistakes that break everything)

Who should take this:

This is perfect if you're:

- An AI developer tired of building basic chatbots and ready for something more sophisticated
- A software engineer who wants to understand how modern AI applications actually work
- A data scientist looking to move beyond notebooks into real applications
- A backend developer who needs to integrate AI workflows into existing systems
- Anyone with some Python experience who's curious about building AI that feels truly intelligent

What you'll need :

- Basic Python skills (if you can write functions and use APIs, you're good)
- Some familiarity with AI/LLMs (you don't need to be an expert)
- A web browser for the labs
- Curiosity about how sophisticated AI systems actually work

Why this matters Real AI applications aren't just single models - they're orchestrated systems where multiple agents work together intelligently. Companies are moving fast from "AI experiments" to "AI in production," and they need people who can build systems that actually work reliably. Learning these patterns gives you the foundation to build AI applications that feel genuinely intelligent, scale properly, and solve real problems instead of just being impressive demos.