Course Introduction

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Course Introduction: Objectives

Equip learners with the foundational understanding of Agentic AI and its applications.

Introduce key design patterns to build autonomous Agentic AI systems.

Discuss practical applications of real-world scenarios.

Foster a deeper understanding of collaboration, adaptability, and decision making in AI systems.

Course Introduction: Expectations

Active engagement with the course material.

A commitment to exploring both **theory and practical aspects** of Agentic AI design.

Willingness to **experiment with implementation challenges**.

Course Introduction: Prerequisites

Basic understanding of Agentic AI concepts

Awareness of software architecture and design principles

Course Outline

1 **Introduction to Agentic AI and Design Patterns**
- Core concepts and the relevance.
- Key characteristics of Agentic systems.

2 **The Reflection Pattern**
- Iterative self-improvement workflows.
- Practical applications like code debugging.

3 **The Tool Use Pattern**
- Interfacing with external tools.
- Tool Use v/s. MCP.
- A Research Assistant using Tool Use Agents

4 **The Planning Pattern**
- Static v/s. Reflective planning patterns.
- The ReAct Framework.
- Practical applications like Deep Research.

5 **The Multi-Agent Pattern**
- Collaboration among agents for complex problem-solving.
- Multi-Agent for Financial Research Analysis

6 **Best Practices & Key Takeaways**
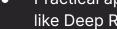- Understand the best practices to build effective Agentic AI systems

Analytics Vidhya

Thank You