

Certified Agentic AI System Architect

Program Curriculum

The Certified Agentic AI System Architect program is a structured, 30+ hour learning experience designed to build deep expertise in agentic AI systems. It spans five in-depth modules covering foundational knowledge, architectural design, tools and frameworks, deployment strategies, security, and emerging trends.

Participants will engage in hands-on labs, case studies, and real-world scenarios, gaining practical experience in building and managing AI agents. The program concludes with a certification exam to validate applied understanding.

Module 1: Foundations of Agentic AI

Establish a solid understanding of the agentic AI paradigm and its distinction from traditional AI approaches. Learn about multi-agent architecture and how agentic systems are driving innovation across industries.

Key Topics:

- Introduction to AI Agents
- Standard AI vs. Agentic AI
- The Agentic AI Paradigm
- Architecting Multi-Agent Systems
- Real-World Applications in Various Industries

Module 2: Designing Agentic AI Architectures

Dive into the principles of designing intelligent agents and scalable agent workflows. Explore automation strategies and build agentic systems using low-code tools.

Key Topics:

- Agent Design Principles
- Decision-Making and Adaptive Learning
- AI Workflow Automation with Agentic Systems
- No-Code/Low-Code Development for AI Agents
- Automating Agent Workflows using n8n
- Case Studies: Agentic AI in Supply Chain & Customer Support

Module 3: Tools & Frameworks for Agentic AI

Get hands-on experience with leading tools and frameworks for building and orchestrating agentic systems. Learn to structure, integrate, and optimize complex multi-agent interactions.

Key Topics:

- Building Agent Workflows with LangGraph – Intuition & Hands-on
- Multi-Agent Orchestration using AutoGen & AutoGen Studio
- Introduction to CrewAI and Its Implementation
- Structured Agent Modeling with PydanticAI
- Integrating Multiple Agentic Frameworks
- Integration with LLMs & RAG for Enhanced Decision-Making
- Understanding NVIDIA NIM Blueprints
- Building Multi-Agent Systems using OpenAI Swarm

Module 4: Evaluating, Monitoring & Deploying Agentic AI Systems

Focus on enterprise deployment, evaluation, and monitoring strategies. Learn how to scale agentic systems effectively while maintaining visibility and control.

Key Topics:

- Deploying and Monitoring Agentic AI Applications on GCP
- Observing and Tracing Multi-Modal Multi-Agent Systems using Portkey
- Developing Agentic AI Systems with OpenAI Agents SDK
- Scaling Agentic AI in Enterprise Environments
- Case Studies: AI Governance in Regulated Industries

Module 5: Security, Governance, and Future Developments in Agentic AI

Explore the future of agentic AI systems, including hybrid and self-evolving agents. Understand security practices, governance, and how to position yourself for evolving career opportunities in this space.

Key Topics:

- Hands-on Lab: Implementing Guardrails in Agentic Systems
 - Next-Gen Agentic AI: Hybrid Systems & Self-Evolving Agents
 - Multi-Modal Agentic AI (Integrating Text, Voice & Vision)
 - AI-Augmented Decision-Making for Businesses
 - Future Trends & Career Pathways in Agentic AI
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Final Certification Exam

After completing all five modules, participants will take the one-hour certification exam to validate their understanding and application of agentic AI concepts. The exam includes:

- 60 multiple-choice questions
- Topics covered across all modules
- Online and closed-book format

Upon passing, participants will receive the Certified Agentic AI System Architect credential, recognizing their expertise in designing and implementing agentic AI solutions.