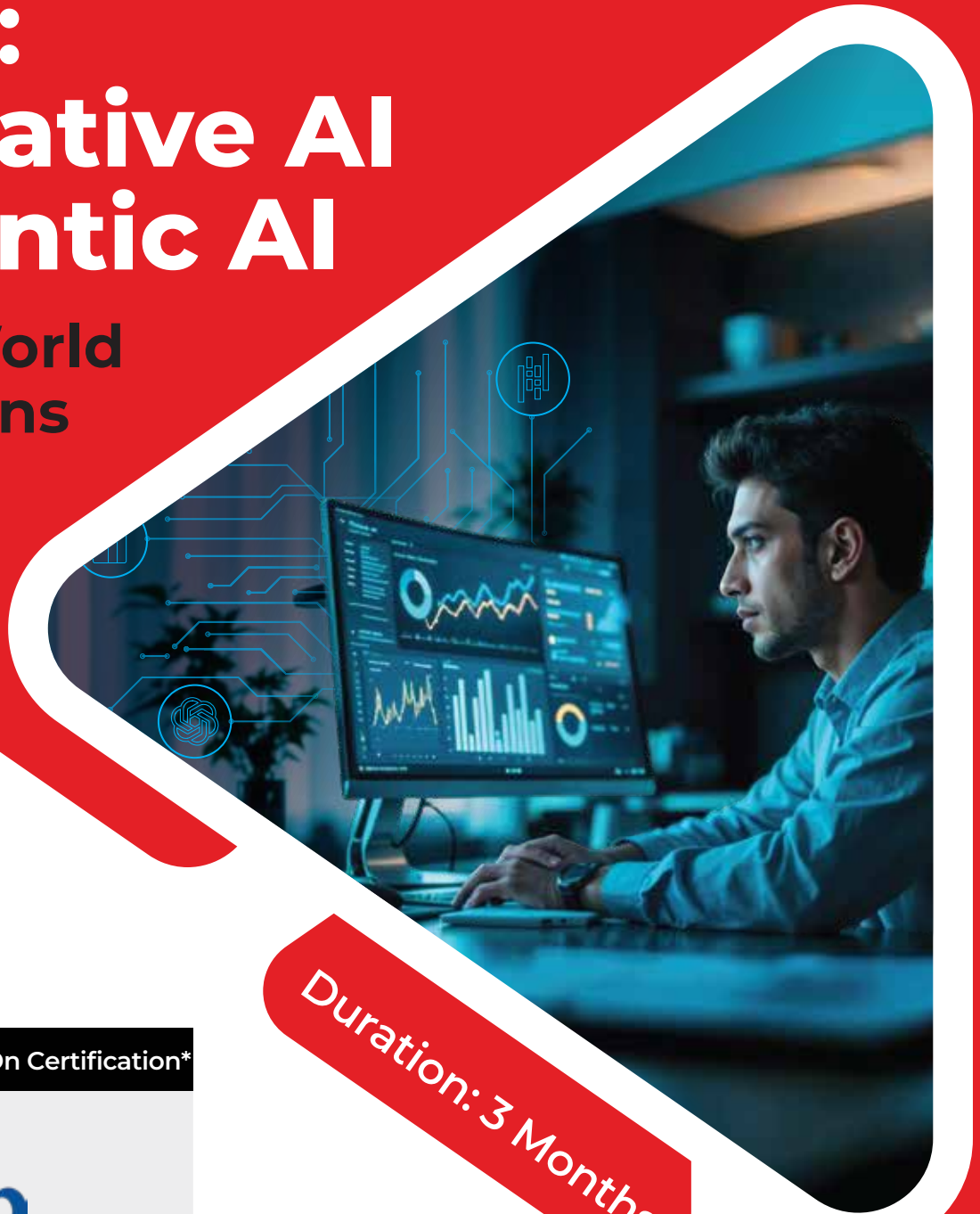


AI Pro: Generative AI & Agentic AI

for Real World
Applications



Duration: 3 Months

Now with Top-Tier Add-On Certification*



**Deploy Production-Ready
GenAI Applications**

**Design RAG
Systems**

**Create Autonomous
AI Agents**

**Build AI System
Architectures**

360° Career Support



Aptitude Training



Resume Building



LinkedIn Profile Evaluation



Interview Question Bank



1:1 Mock Interview Calls



Hands-on Technical Learning



Soft Skill Training



GD/Interview Prep

Roles Within The Domain



Generative AI Engineer



AI Application Developer



AI Solutions Architect



Program Curriculum

MODULE

01

Foundations of Applied GenAI Systems

Learners Will Build

- Prompt engineering pipelines with structured inputs & outputs
- Token, context, and response-control mechanisms
- Evaluation pipelines to compare & benchmark model responses

Key Outcomes

- Design & implement structured GenAI interaction pipelines
- Control LLM outputs using prompts, parameters, and context strategies
- Evaluate cost, latency, and output quality across LLM configurations
- Identify use cases where GenAI is sufficient vs where additional systems are required

Learners Will Build

- End-to-end RAG pipelines using real document datasets
- Embedding-based semantic search systems
- Context-aware Q&A systems over enterprise knowledge bases

Key Outcomes

- Build and deploy RAG pipelines using embeddings & vector databases
- Select and implement chunking, embedding, and retrieval strategies
- Design explainable and controllable AI responses grounded in source data
- Troubleshoot hallucinations and retrieval failures in RAG systems

Learners Will Build

- Multi-step agent workflows with tool calling
- Autonomous task-execution systems
- AI agents integrated with external tools and APIs

Key Outcomes

- Design and implement agent reasoning and decision flows
- Build autonomous workflows using tools, memory, and planning logic
- Integrate AI agents with external systems and APIs
- Define safety boundaries, failure handling, and fallback mechanisms for agents



Learners Will Build

- API-based GenAI services
- Deployed AI applications (local and cloud-ready)
- End-to-end system architectures from input to output

Key Outcomes

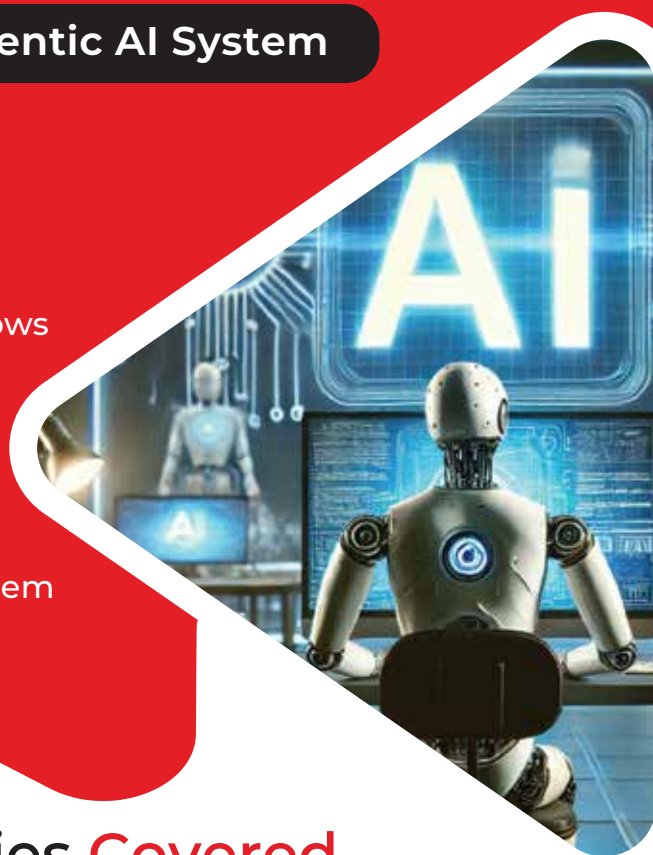
- Deploy GenAI and Agentic AI systems using APIs and services
- Design system architectures optimized for latency, cost, and scale
- Explain architectural trade-offs to technical and non-technical stakeholders
- Apply responsible AI practices during deployment

Capstone: End-to-End GenAI & Agentic AI System**Capstone Deliverable**

- Enterprise document intelligence platform
- Autonomous workflow automation agent
- AI assistant combining RAG & agent workflows

Curriculum Outcome

- Own an AI problem end-to-end
- Justify architectural and tool choices
- Deliver a fully functional, deployable AI system

**Tools & Technologies Covered**

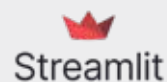
python



OpenAI



LangChain



Streamlit

FAISS



Hugging Face



neo4j



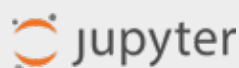
OpenAI



pandas



NumPy



jupyter



LangGraph

What Learners **Will Build**

➔ AI-powered assistants & chatbots

➔ Enterprise document intelligence & Q&A systems

➔ Automated AI workflows & agent-based systems

➔ End-to-end deployed GenAI applications

Program **Highlights**

Hands-On Training
with 12+ Live Projects

Free Access to 15+
Programming Tools

100% Placement
Assistance

3 Years Access to
Career Portal

Why You Should Choose upGrad AI Pro

Aspect	AI Pro	Other AI Courses
Learning Focus	Building & deploying AI systems	Prompt usage & tools
Coverage	GenAI, RAG, Agentic AI, Deployment	Mostly GenAI
Hands-on Depth	System-level, production-style	Tool-level demos
Projects	End-to-end deployed systems	Mini or mock projects
Outcome	Applied AI / GenAI Engineer readiness	Conceptual familiarity

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