



Full Stack Generative AI Developer Program

6 Months

20 Modules

Build Real AI Products. Not Just Prompts.



Artificial Intelligence is transforming every industry.
This program is designed to turn you into a Generative AI Developer
capable of building real AI products.

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www.blackboxlearning.in

Are You Facing These Problems?

1. Do you feel like AI is moving too fast and you're struggling to keep up?
2. Do you feel like everyone around you is learning AI while you are falling behind?
3. Do you want to build AI startups, AI tools, or AI automation systems but lack the technical roadmap?

If you answered yes to even one of these questions, this program is built for you.



What **You Will Learn**

You will learn how to build AI applications using technologies such as:

Module 1: Programming Foundations with Python

- Python basics
- Variables and data types
- Control structures
- Functions
- File handling
- Error handling
- Object Oriented Programming
- Virtual environments
- Package management with pip
- Working with JSON and APIs
- API data fetcher
- Data processing scripts
- CLI automation tool

Module 2: Data Analysis with Python

- NumPy
- Pandas
- Matplotlib
- Data loading and cleaning
- Data manipulation
- Aggregations
- Data visualization
- Exploratory Data Analysis

Module 3: **Frontend** Basics

HTML

- Tags
- Forms
- Semantic HTML

CSS

- Layout basics
- Flexbox
- Responsive basics
- Tailwind CSS

JavaScript

- Variables and functions
- DOM manipulation
- Fetch API
- API responses

Module 4: **Backend** Development

Django

- Project setup
- Models
- Views
- Templates
- Authentication
- File uploads
- REST APIs

FastAPI

- API development
- Async endpoints
- Request/response models
- API documentation

django

FastAPI

Module 5: **Databases** & Version Control

MongoDB Atlas

- NoSQL fundamentals
- CRUD operations
- Schema design
- Indexing
- AI data storage

Git & GitHub

- Version control
- Branching
- Pull requests
- Collaboration workflows

Module 6: **Machine Learning** Fundamentals

Traditional ML

- Supervised learning
- Unsupervised learning
- Regression
- Classification
- Clustering

Algorithms

- Linear regression
- Logistic regression
- Decision trees
- Random forests
- K-means clustering

Module 7: **Deep Learning**

Neural networks
Backpropagation
CNN basics
RNN basics
Transformer architecture
PyTorch basics

Module 8: Large Language Models (**LLMs**)

Transformers
Attention mechanisms
Tokenization
Embeddings
Prompt engineering
Context windows
Retrieval Augmented Generation (RAG)

Module 9: **Hugging Face** Ecosystem

Huggingface Hub
Transformers library
Datasets library
Model pipelines
Running open-source models

Module 10: AI **APIs**

OpenAI
Google Gemini
ElevenLabs
Anthropic (optional)

Module 11: **Multimodal AI**

Text to Speech
Speech to Text
Image Generation
Video Generation

Module 12: Local AI with **Ollama**

Running models locally
Model management
Local inference
Privacy-focused AI apps



Module 13: AI Frameworks

LangChain

- Chains
- Tools
- Memory
- RAG pipelines

LangGraph

- Agent workflows
- Stateful agents
- Multi-agent orchestration

Concepts

- Agents
- Agentic AI systems
- Tool calling



Module 14: Voice Agents

VAPI

Retell AI

Bland AI

Module 15: OCR & Document AI

PyTesseract

AWS Textract

OpenOCR

Image preprocessing

Text extraction

Document parsing

Structured data extraction

Module 16: AI Automation with n8n

Workflow automation

Event-driven automation

AI tool integration

Webhooks

API orchestration

AI powered automation workflows

Module 17: AI Computer Control with OpenClaw

AI computer interaction

LLM based computer control

Task automation using AI

Desktop automation

Tool usage by AI agents



OPEN CLAW

Module 18: Advanced **Web Scraping**

Playwright

Dynamic website scraping

Handling login systems

Headless browser automation

Data extraction pipelines

Module 19: **MCP Servers**

Model Context Protocol

Context sharing

Tool servers

Multi-agent communication

Module 20: **Cloud & Deployment**

EC2

S3

Deployment workflow



The Skills **Companies Are Looking For**

Companies today are searching for developers who understand:

AI agents

LLM applications

AI automation

AI APIs

Document AI

Voice AI systems

This program is designed to teach exactly these skills.

Real **Projects** You Will **Build**

Learning AI without building projects is useless.

In this program you will build real world applications such as:

AI chatbot with knowledge base

AI research assistant

AI document extraction system

AI voice assistant

AI automation workflows

AI powered web applications

These projects become your portfolio to showcase your skills.

Stop Using **AI Tools** Start Building Them

This is not another course that teaches you just how to write prompts.

This program teaches you how to build AI products from scratch.

You will learn how modern AI systems actually work and how to develop them using real industry tools.

Earn an **Industry-Verified Skill** Credential

Upon successful completion of the program, students will receive the **Blackbox Learning Certificate of Production-Level Competency**.

BLACKBOX LEARNING

INDUSTRY-VERIFIED SKILL CREDENTIAL

Certificate ID: BBX-MERN-2026-0001
Issue Date: 01 March 2026
Verification: www.blackboxlearning.com/verify/0001

CERTIFICATE OF PRODUCTION-LEVEL COMPETENCY

This is to certify that

KARTHIKA M

has successfully completed the rigorous technical training program and demonstrated verified production-level competency in:

FULL STACK MERN DEVELOPMENT

(Node.js • Express.js • MongoDB • React.js)

TECHNICAL COMPETENCY REPORT

Skill Area	Score (Out of 10)	Proficiency Level
React Architecture & State Management	8.6	Advanced
Backend API Design & Security	8.9	Advanced
Database Modeling & Optimization	8.2	Strong
Authentication & Authorization Systems	9.1	Advanced
Deployment & DevOps Fundamentals	7.8	Proficient
Debugging & Performance Optimization	8.5	Strong

BLACKBOX DEVELOPER QUOTIENT (BDQ)

8.6 / 10

Production Ready - Entry Level Full Stack Developer

CAPSTONE PROJECT VALIDATION

Project Title: Multi-Tenant SaaS Admin Dashboard

- Role-Based Access Control
- JWT Authentication & AWS Deployment
- CI/CD Pipeline & RESTful APIs

Live Project URL:

PERFORMANCE BENCHMARK

- Ranked in Top 10% of Cohort
- Blackbox Exit Assessment Passed


Girish Padoli


Vishnu Viswanath



This certification validates demonstrable production-level skills assessed through structured technical evaluation, live project deployment, and standard use code review audits conducted by Blackbox Learning.



Verify at: www.blackboxlearning.com/verify/0001

Sample Skill Certificate

This certification is designed to validate real technical capability, not just course completion.

Program **Highlights**

6 Month Intensive Training Program

Hands-on Projects and Real Applications

Production-Level Capstone Project

Industry Verified Skill Credential

Guidance for Global Technology Certifications

Curriculum Designed by Industry Professionals

Enroll Now

Seats are limited to ensure personalized learning and mentorship.

Start your journey toward becoming a Generative AI Developer.

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