

AI & Generative AI Engineer

Build and deploy production-grade AI systems spanning ML, deep learning, GenAI, RAG, agents and MLOps.



16 weeks

DURATION

8 phases

CURRICULUM

Capstone

INTEGRATED PROJECT

ABOUT THE ACADEMY

Practical learning. Work you can demonstrate.

Brightnest AI Academy brings live instruction, guided practice and career preparation together for individuals and teams.

23

FOCUSED COURSES

6

FLAGSHIP PROGRAMMES

Noida

ACADEMY LOCATION

Our approach

1

Learn

Understand concepts through live instruction and current examples.

2

Build

Apply learning through labs, assignments and guided projects.

3

Explain

Document decisions, results, trade-offs and limitations.

4

Prepare

Connect completed work with CVs, interviews and workplace conversations.

PEOPLE BEHIND THE ACADEMY

Meet Ranjeet Kumar



ACADEMY ADVISER

Ranjeet Kumar

Innovation & Growth Leader

15+ years

Experience in data, artificial intelligence and machine learning leadership.

Areas of expertise

- Data science and machine learning solution leadership
- AI product strategy and scalable data platforms
- Technology team leadership and mentorship
- Practical AI and data adoption for business transformation

Education

Master of Information Systems, Anna University, Chennai
Bachelor of Computer Science Engineering

PROGRAMME OVERVIEW

Build your next set of skills

Become the engineer who can take AI from data and models to GenAI applications, agents and production operations.

Who this is for

Students, developers, analysts, data professionals and working technologists targeting AI, machine learning, Generative AI or LLM application roles.

Before you begin

No advanced AI experience is required. The pathway begins with Python and AI foundations; consistent coding practice is essential.

Target roles: AI Engineer / GenAI Engineer / ML Engineer



LEARNING OUTCOMES

What you will be able to do

01

Build programming, data and AI foundations.

02

Engineer reliable supervised/unsupervised ML solutions.

03

Build advanced neural and computer-vision systems.

04

Build RAG, tool-using and agentic AI applications.

05

Operationalise ML and GenAI with production controls.

06

Containerise, automate and deploy AI systems using modern platform practices.

07

Complete a domain sprint in healthcare, finance, retail, life sciences or enterprise operations.

08

Deliver a production-grade enterprise AI copilot/agent with measurable quality and business value.



CURRICULUM

Your eight-phase pathway

8 phases · 16 weeks · Includes an integrated capstone

01 Python + AI Foundations

TOPICS

Python Setup and Developer Workflow · Core Python Programming · Data Structures and Pythonic Problem Solving · Object-Oriented Python and Packaging · NumPy, Pandas and Data Preparation · Math and Statistics for AI · Machine Learning Workflow Foundations · AI Foundations Capstone

PHASE OUTCOME

Build programming, data and AI foundations.

RELATED COURSE CONTENT

Python for AI & Machine Learning Foundations

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.

02 Machine Learning Engineering

TOPICS

ML Problem Framing and Experiment Design · Feature Engineering and Data Pipelines · Regression Engineering · Classification Engineering · Unsupervised Learning and Representation · Model Evaluation, Tuning and Explainability · Packaging, APIs and Production Inference · Monitoring, Responsible ML and Capstone

PHASE OUTCOME

Engineer reliable supervised/unsupervised ML solutions.

RELATED COURSE CONTENT

Machine Learning Engineering

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.



CURRICULUM

Your eight-phase pathway

8 phases · 16 weeks · Includes an integrated capstone

03 Deep Learning + Vision

TOPICS

Neural Network Foundations · Deep Learning Engineering Workflow · CNNs and Transfer Learning · Object Detection and Segmentation · Vision Transformers and Embeddings · Multimodal AI and Vision-Language Systems · Optimization, Evaluation and Edge/Cloud Deployment · Computer Vision Engineering Capstone

PHASE OUTCOME

Build advanced neural and computer-vision systems.

RELATED COURSE CONTENT

Deep Learning & Computer Vision Engineering

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.

04 Generative + Agentic AI

TOPICS

LLM and Generative AI Engineering Foundations · Prompt and Context Engineering · Embeddings, Vector Search and Knowledge Ingestion · RAG Engineering and Retrieval Quality · Tool Use, Function Calling and API Integration · Agentic AI, Memory and MCP-Style Integrations · Multi-Agent Workflows and Enterprise Orchestration · Evaluation, Guardrails and Responsible GenAI · Production Deployment, Observability and Cost · Generative and Agentic AI Capstone

PHASE OUTCOME

Build RAG, tool-using and agentic AI applications.

RELATED COURSE CONTENT

Generative AI, RAG & Agentic AI Engineering

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.



CURRICULUM

Your eight-phase pathway

8 phases · 16 weeks · Includes an integrated capstone

05 MLOps + LLMOps

TOPICS

MLOps and LLMOps Operating Model · Experiment Tracking and Reproducibility · Data and Training Pipelines · CI/CD/CT for ML Systems · Model Serving and Scalable Inference · LLMOps: Prompt, Model and Knowledge Lifecycle · Monitoring, Drift and AI Observability · Governance, Security and Production Capstone

PHASE OUTCOME

Operationalise ML and GenAI with production controls.

RELATED COURSE CONTENT

MLOps & LLMOps Engineering

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.

06 Cloud + DevOps Integration

TOPICS

DevOps Foundations, Git and Flow of Work · Continuous Integration and Artifact Management · Docker and Container Engineering · Kubernetes Application Platform · Helm, GitOps and Release Engineering · Infrastructure as Code and Cloud Automation · Observability, SRE and Incident Readiness · DevSecOps and Software Supply Chain · Platform Engineering and Developer Experience · DevOps and Cloud Platform Capstone

PHASE OUTCOME

Containerise, automate and deploy AI systems using modern platform practices.

RELATED COURSE CONTENT

DevOps, Kubernetes & Cloud Platform Engineering

Related course content supports this phase. Confirm the cohort-specific learning plan with admissions.



CURRICULUM

Your eight-phase pathway

8 phases · 16 weeks · Includes an integrated capstone

07 Industry Sprint

PHASE OUTCOME

Complete a domain sprint in healthcare, finance, retail, life sciences or enterprise operations.

Applied sprint or integrated capstone; no separate focused-course module list is specified.

Sprint domains: healthcare, finance, retail, life sciences, enterprise operations

08 Flagship Capstone

PHASE OUTCOME

Deliver a production-grade enterprise AI copilot/agent with measurable quality and business value.

Applied sprint or integrated capstone; no separate focused-course module list is specified.

APPLIED PORTFOLIO

Portfolio project examples

Illustrative options from the master pathway. Confirm your cohort's project selection with admissions.

PROJECT EXAMPLE 1

Customer Churn Starter AI

Clean customer data, engineer basic features, train a baseline classifier and explain results.

DELIVERABLES

Data cleaning notebook · model notebook · README · metric summary · 5-minute demo.

PROJECT EXAMPLE 2

Production Churn Prediction API

Train, tune, explain and deploy a churn classifier as an API.

DELIVERABLES

ML pipeline · model card · FastAPI endpoint · Dockerfile · monitoring plan.

APPLIED PORTFOLIO

Portfolio project examples

Illustrative options from the master pathway. Confirm your cohort's project selection with admissions.

PROJECT EXAMPLE 3

Visual Defect Detection

Detect defects from product/industrial images and deploy inference.

DELIVERABLES

Dataset strategy · model · evaluation · inference API · demo.

PROJECT EXAMPLE 4

Enterprise Knowledge Copilot

RAG assistant over approved enterprise documents with citations, evaluation and guardrails.

DELIVERABLES

Ingestion pipeline · retrieval benchmark · app · traces · evaluation report.

FLAGSHIP CAPSTONE

Enterprise AI Copilot & Agent Platform

Learners integrate the complete pathway into a production-style capstone with a clear brief, architecture or process design, working implementation, testing or evaluation evidence, documentation, mentor review and a final technical or business presentation.

Bring the pathway together

Integrate the pathway into one production-style capstone that demonstrates architecture or process design, implementation, testing or evaluation, documentation, responsible practice and a final presentation.

LEARNING EXPERIENCE

Learn, practise and present

- Live classes that connect concepts to practical applications.
- Guided labs, projects and mentor feedback.
- An integrated flagship capstone with documentation and presentation.
- Career preparation based on completed work and target roles.

CAREER PREPARATION

Build confidence for interviews

A structured process to connect your learning with your next career step.

01**Role clarity**

Identify roles that fit your background, interests and current skills.

02**Profile readiness**

Review your CV, LinkedIn, GitHub and project summaries.

03**Project proof**

Prepare to demonstrate completed work and explain your decisions.

04**Interview practice**

Practise technical questions, project walkthroughs and interviews.

05**Opportunity updates**

Receive relevant job openings and employer requirements, subject to availability and learner readiness.

Career support helps you prepare. Employment outcomes depend on experience, project quality, interview readiness and market conditions.

LEARNER JOURNEYS

Companies where our learners have been hired

Across the Brightnest AI Academy learner community



Learner employment history across the academy; not a placement guarantee for this course. Names and logos identify employers; they do not imply endorsement or a hiring partnership.



BEFORE YOU ENROL

Your questions, answered

How long does the programme take?

The flagship programme runs over 16 weeks.

Are all related courses mandatory?

Some phases use selected topics or alternative course options. Follow the phase-specific guidance and confirm your cohort's learning plan with admissions.

What will I build?

Learners integrate the complete pathway into a production-style capstone with a clear brief, architecture or process design, working implementation, testing or evaluation evidence, documentation, mentor review and a final technical or business presentation.

What support is available?

Live classes, labs, projects, capstone review, mentor feedback and career preparation are part of the learning approach.

FEES & ADMISSIONS

Plan your next step

PROGRAMME FEE

INR 60,000 + GST

EMI and easy instalments available

Duration	16 weeks
Level	Advanced
Learning format	Live mentor-led learning
Batch starts	Expected Saturday / Sunday starts

Check the live Batches page for the next expected weekend. Confirm the exact date, class times and availability with admissions.

Book a free demo class >

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brightnestaiacademy.com/batches

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