

MLOps & LLMOps Engineering

Learn how production AI actually operates: reproducible experiments, pipelines, CI/CD, serving, monitoring, governance and LLMOps.

**8 weeks**

DURATION

80 hours

GUIDED LEARNING

2 projects

PORTFOLIO



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

COURSE OVERVIEW

Build your next set of skills

Learn the production ML/LLM lifecycle, observability, CI/CD, governance, and scalable serving. Progress from MLOps and LLMOps Operating Model to Governance, Security and Production Capstone through guided labs, assessed projects, and portfolio evidence.

Who this is for

ML/AI engineers, data scientists and platform engineers responsible for production AI systems.

Before you begin

Learners should have machine-learning or GenAI project experience, along with familiarity with Git, Python, and basic cloud and container concepts.

Production AI requires reproducible experiments, controlled releases, observability, governance, and clear operational ownership across both ML and LLM systems.



LEARNING OUTCOMES

What you will be able to do

01

Map an existing ML project into an MLOps lifecycle with control points and ownership.

02

Track experiments and reproduce the best run from versioned code and configuration.

03

Build an automated training pipeline with validation and failure handling.

04

Create CI/CD that tests, packages and promotes a model service through environments.

05

Deploy two model versions and run a safe canary or shadow release.

06

Build monitoring dashboards and define alerts/SLOs for an ML or GenAI service.

07

Deliver a production AI platform blueprint and automate a governed deployment for a model or LLM application.

CURRICULUM

Course curriculum

8 modules · 8 weeks · 80 hours of guided learning

01 MLOps and LLMOps Operating Model

6 hours

TOPICS

ML/LLM lifecycle · Environments · Reproducibility · Experiment versus production · Roles · Governance · Platform architecture · Maturity model

PRACTICAL WORK

Map an existing ML project into an MLOps lifecycle with control points and ownership.

Tools: Git, MLflow, Cloud ML platform concepts

Assessment: Architecture exercise

Portfolio evidence: MLOps operating model

02 Experiment Tracking and Reproducibility

8 hours

TOPICS

Code/data/model versioning · Experiment tracking · Parameter and metric logging · Artifacts · Environment capture · Lineage

PRACTICAL WORK

Track experiments and reproduce the best run from versioned code and configuration.

Tools: MLflow/W&B, Git, DVC optional

Assessment: Reproducibility lab

Portfolio evidence: Tracked experiment repository



CURRICULUM

Course curriculum

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03 Data and Training Pipelines

10 hours

TOPICS

Pipeline DAGs · Validation · Feature pipelines · Scheduled/retraining jobs · Orchestration · Artifact stores · Data quality gates

PRACTICAL WORK

Build an automated training pipeline with validation and failure handling.

Tools: Airflow/Prefect/Kubeflow/cloud pipelines

Assessment: Pipeline lab

Portfolio evidence: Automated training workflow

04 CI/CD/CT for ML Systems

10 hours

TOPICS

Unit/integration/data tests · Model checks · Container builds · Registries · Promotion · Continuous training · Environment gates

PRACTICAL WORK

Create CI/CD that tests, packages and promotes a model service through environments.

Tools: GitHub Actions/GitLab CI, Docker, Registry

Assessment: CI/CD checkpoint

Portfolio evidence: ML CI/CD pipeline

CURRICULUM

Course curriculum

8 modules · 8 weeks · 80 hours of guided learning

05 Model Serving and Scalable Inference

10 hours

TOPICS

Batch/online/streaming inference · REST/gRPC concepts · Autoscaling · Canary/shadow/A-B deployment · Latency · Cost · Rollback

PRACTICAL WORK

Deploy two model versions and run a safe canary or shadow release.

Tools: FastAPI, Docker, Kubernetes/cloud serving

Assessment: Serving lab

Portfolio evidence: Versioned inference service

06 LLMOps: Prompt, Model and Knowledge Lifecycle

10 hours

TOPICS

Prompt/version management · Model routing · RAG index lifecycle · Evaluation gates · Caching · Token economics · Model upgrades · Rollback

PRACTICAL WORK

Create a release workflow for prompts, retrieval index and model configuration with regression tests.

Tools: LLM tracing/eval stack, Vector DB, Git

Assessment: LLMOps release lab

Portfolio evidence: Versioned GenAI release pipeline



CURRICULUM

Course curriculum

8 modules · 8 weeks · 80 hours of guided learning

07 Monitoring, Drift and AI Observability

10 hours

TOPICS

Infrastructure metrics · Data/model drift · Quality metrics · Traces · LLM latency/cost · Groundedness · Alerting · Incident diagnostics

PRACTICAL WORK

Build monitoring dashboards and define alerts/SLOs for an ML or GenAI service.

Tools: OpenTelemetry, Prometheus/Grafana or cloud monitoring

Assessment: Observability review

Portfolio evidence: AI operations dashboard

08 Governance, Security and Production Capstone

16 hours

TOPICS

Model registry controls · Secrets/IAM · Auditability · PII · Responsible AI · Approval workflows · Risk tiering · Disaster recovery · Cost governance

PRACTICAL WORK

Deliver a production AI platform blueprint and automate a governed deployment for a model or LLM application.

Tools: MLflow/cloud ML, CI/CD, Docker/Kubernetes, Security tooling

Assessment: Capstone defence

Portfolio evidence: Governed MLOps/LLMOps platform project

APPLIED PORTFOLIO

Projects you will build

Two portfolio projects supported by guided module work.

PORTFOLIO PROJECT 1

Production AI Delivery Platform

Create a versioned training and deployment workflow with CI/CD, a registry, monitoring and rollback.

DELIVERABLES

Pipeline code · Registry · Deployment · Dashboards · Runbook

PORTFOLIO PROJECT 2

LLMOps Release System

Manage prompts, model configs, RAG index, evaluations and release gates.

DELIVERABLES

Versioned assets · Regression evals · Trace dashboard · Release checklist

LEARNING EXPERIENCE

Learn, practise and present

- Live instructor-led sessions that connect concepts to real workplace decisions.
- Guided labs and workshops in every module.
- Assignments, checkpoints and practical feedback.
- Portfolio documentation, demonstrations and capstone review.
- Access to recordings and LMS resources according to the published batch policy.
- Career preparation based on completed work and target roles.

Tools you will work with

Git · MLflow · Cloud ML platform concepts · W&B · DVC · Airflow · Prefect · Kubeflow · Cloud pipelines · GitHub Actions · GitLab CI · Docker · Registry · FastAPI · Kubernetes · Cloud serving

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

Is the MLOps & LLMOps course suitable for beginners?

This is an advanced-level course. Learners should have machine-learning or GenAI project experience, along with familiarity with Git, Python, and basic cloud and container concepts.

What will I build during the course?

You will complete guided labs in every module and build two portfolio projects: Production AI Delivery Platform and LLMOps Release System. Deliverables include working files or code, documentation, testing or evaluation evidence, and a final presentation.

Which tools and platforms are covered?

Key tools include Git, MLflow, cloud ML platform concepts, W&B, DVC, Airflow, Prefect, and Kubeflow. Additional platforms are introduced in relevant modules through practical tasks, and the toolset may evolve as industry practice changes.

How long does the course take?

The course includes approximately 80 guided learning hours across 8 modules, delivered over 8 weeks.

Which career paths can this course support?

The curriculum supports the development of skills relevant to roles such as MLOps Engineer, LLMOps Engineer, ML Platform Engineer, and AI Reliability Engineer. Career outcomes depend on prior experience, project quality, interview readiness and market conditions; employment is not guaranteed.

BEFORE YOU ENROL

Your questions, continued

Will I receive mentor and career support?

The course includes live instruction, lab support, assignment feedback, project reviews and career preparation covering portfolio development, CV writing, LinkedIn profile improvement, and interview guidance.

FEES & ADMISSIONS

Plan your next step

COURSE FEE

INR 35,000 + GST

EMI and easy instalments available

Duration	8 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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