



MLOPS

VERSIONING . TRACKING . REGISTRATION
CI/CD FOR MODELS . DOCKER
MONITORING . DRIFT . COST

DURATION

50 Hours

LEVEL

Advanced

MODULES

8

MODE

**Classroom ·
Online · Hybrid**

01 COURSE OVERVIEW

An operations course for machine learning systems: packaging, shipping, monitoring and retraining models.

The course treats a model as one component of a maintained service. It covers data and model versioning, experiment tracking, pipelines, containerisation, deployment patterns, observability, drift detection and retraining triggers.

Learners take one trained model through the full lifecycle on a cloud account, including automated retraining.

WHO IT IS FOR

ML engineers and data scientists

DevOps engineers supporting data teams

Backend developers deploying models

Platform and infrastructure teams

PREREQUISITES

Python, a trained model of your own, Git and basic Linux. Docker exposure is helpful.

02 LEARNING OUTCOMES

01 Version datasets, code and models reproducibly.

03 Package training and inference in containers.

05 Serve models for batch and real-time use.

07 Trigger and validate retraining safely.

02 Track experiments and register model versions.

04 Automate training and deployment pipelines.

06 Monitor latency, cost, data drift and quality.

03 MODULE STRUCTURE

8 MODULES

01 MLOPS FOUNDATIONS

ML lifecycle

Team roles

Reproducibility

Technical debt in ML

Maturity levels

02 VERSIONING

Git workflows

Model artefacts

Environment pinning

Data versioning with DVC

Feature stores

LAB

VERSIONED TRAINING RUN

03 EXPERIMENT TRACKING

Runs and parameters

MLflow

Model registry

Metrics and artefacts

Weights & Biases

LAB

TRACKED EXPERIMENTS

04 PIPELINES

Training pipelines

Airflow and Prefect basics

Data validation

LAB

AUTOMATED TRAINING PIPELINE

Orchestration

Scheduling

05 CONTAINERISATION

Dockerfiles for ML

GPU images

Image size and security

LAB

CONTAINERISED INFERENCE

Dependency management

Compose

06 DEPLOYMENT

FastAPI serving

Streaming

Autoscaling

LAB

KUBERNETES DEPLOYMENT

Batch scoring

Kubernetes basics

Canary and shadow releases

07 MONITORING

Service metrics

Logging

Concept drift

LAB

DRIFT DASHBOARD

Prometheus and Grafana

Data drift

Alerting

08 GOVERNANCE AND COST

Model cards

Audit trails

Retraining policy

Approval workflows

GPU cost control

PROJECT

FULL LIFECYCLE FOR ONE MODEL

04 ASSESSMENT & CERTIFICATION

Module assignments and labs	25%
Mini projects	20%
Internal assessments	15%
Final project and review	40%

CERTIFICATION

Learners who complete all modules, submit the final project and clear the review receive a course completion certificate from Kaizen Infinities Private Limited. Project work is documented for the learner's portfolio, and interview preparation is included in the closing sessions.

05 CAREER OUTCOMES

ROLES THIS PROGRAMME PREPARES FOR

MLOPS ENGINEER

ML PLATFORM ENGINEER

DEVOPS ENGINEER (ML)

DATA ENGINEER

AI INFRASTRUCTURE ENGINEER

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