

Since 2007, Making IT Experts & Products

Course: MLOps Engineering

Duration: 100 Hrs (Changeable) | Fees: Individual / Batch

Since 2007, Nestsoft TechnoMaster has been providing training, internships, and services in IT technologies, both online and offline, with the expertise of **over 250 industry experts**. We have delivered internships, training, and seminars to more than 50,000 students, resulting in numerous success stories. **We offer 100% placement support through JobsNEAR.in**

Our Courses/Internship

- Python/Django Fullstack
- Artificial Intelligence
- Machine Learning
- Data Science
- Software Testing (All)
- Wordpress, Woocommerce
- Digital Marketing, SEO
- Php/MySQL, Laravel
- Flutter, Android, IOS
- Asp.net MVC
- Web Design, Javascript
- Angular JS, React JS
- CCNA, MCSA, CCNP
- AWS, GCP, Azure
- Odoo, Salesforce, Sap
- Microsoft Excel
- Ethical Hacking



Syllabus on the Next Page ..



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Introduction

to a full-fledged MLOps Engineer. The course is designed to help you understand the MLOps lifecycle, from data collection and preprocessing to model training, deployment, and monitoring. You will also learn about the various tools and frameworks used in MLOps, such as Docker, Kubernetes, and MLflow.

Course Syllabus

Month 1: MLOps Fundamentals & Machine Learning Basics

Introduction to MLOps

- * Introduction to MLOps
- * Importance of MLOps in AI Projects
- * Machine Learning Lifecycle
- * Data Science vs MLOps
- * MLOps Workflow and Architecture
- * Role and Responsibilities of MLOps Engineer
- * AI Development and Production Workflow

Machine Learning Fundamentals

- * Introduction to Machine Learning
- * Supervised Learning
- * Unsupervised Learning
- * Data Collection and Preparation
- * Data Preprocessing Techniques
- * Feature Engineering
- * Model Training and Evaluation
- * Machine Learning Performance Metrics

Python for MLOps

- * Python Programming Basics

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- * Working with NumPy and Pandas
- * Data Processing and Analysis
- * Machine Learning Libraries Overview
- * Managing Python Environments
- * Virtual Environment Setup

Version Control & Collaboration

- * Introduction to Git
- * GitHub Repository Management
- * Git Commands and Workflow
- * Branching and Merging
- * Code Version Management
- * Team Collaboration Practices

Month 2: Model Deployment & Automation

Machine Learning Model Deployment

- * Introduction to ML Model Deployment
- * Model Serialization
- * Deploying Models using Flask
- * FastAPI for Machine Learning APIs
- * REST API Development
- * Real-Time Prediction Systems
- * Batch Prediction Deployment

Docker & Containerization

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- * Introduction to Docker
- * Docker Installation and Setup
- * Docker Images and Containers
- * Creating Dockerfiles
- * Containerizing ML Applications
- * Docker Compose Basics

Kubernetes for MLOps

- * Introduction to Kubernetes
- * Kubernetes Architecture
- * Pods and Containers
- * Deployments and Services
- * Scaling ML Applications
- * Kubernetes Workflow for AI Systems

CI/CD Pipeline for Machine Learning

- * Introduction to CI/CD
- * Continuous Integration Concepts
- * Continuous Deployment Concepts
- * Automated ML Pipelines
- * GitHub Actions
- * Jenkins Basics

Month 3: Advanced MLOps & Industry Projects

MLOps Tools and Platforms

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- * Introduction to MLflow
- * Experiment Tracking
- * Model Versioning
- * Model Registry
- * DVC for Data Version Control
- * Pipeline Automation

Cloud MLOps

- * Cloud Computing Fundamentals
- * AWS Machine Learning Services
- * Azure Machine Learning Overview
- * Google Cloud AI Platform Overview
- * Cloud-Based Model Deployment
- * Scalable AI Infrastructure

Model Monitoring & Maintenance

- * ML Model Monitoring Concepts
- * Performance Tracking
- * Data Drift Detection
- * Model Retraining Strategies
- * Logging and Error Monitoring
- * AI System Maintenance

Advanced MLOps Practices

- * End-to-End ML Pipeline Development

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- * Production ML Architecture
- * Automation Best Practices
- * Security in MLOps
- * AI Governance
- * Industry MLOps Workflow

Final Projects

- * End-to-End Machine Learning Deployment Project
- * ML Model API Development
- * Automated ML Pipeline Project
- * Cloud-Based AI Application
- * Real-Time Model Monitoring System

Tools and Technologies

- * Python
- * Machine Learning
- * Git & GitHub
- * Docker
- * Kubernetes
- * MLFLOW
- * DVC
- * Jenkins
- * GitHub Actions
- * Flask

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- * FASTAPI
- * AWS
- * Azure
- * Google Cloud Platform

(Click on Course for more details)

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- Thank You -

N.B: This syllabus is not final and can be customized as per requirements / updates.

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