GTC Transforming Emerging Economies

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MLOps: CI/CD for Machine Learning

COURSE OVERVIEW

This course focuses on the principles and practices of MLOps (Machine Learning Operations), with a strong emphasis on Continuous Integration and Continuous Deployment (CI/CD) for ML models. Participants will learn how to automate the ML lifecycle from data ingestion and model training to testing, deployment, and monitoring using tools like Git, Docker, Kubernetes, MLflow, and cloud services. The course blends theory and hands-on labs to help learners streamline model delivery, ensure reproducibility, and scale ML workflows efficiently.

WHO SHOULD ATTEND?

This course is tailored for machine learning engineers, DevOps engineers, data scientists, software developers, and IT professionals responsible for deploying and maintaining ML systems. It is also important for technical project leads and architects seeking to implement scalable, reliable, and automated ML pipelines.

COURSE OUTCOMES

Delegates will gain the knowledge and skills to:

- Understand the MLOps lifecycle and its importance in production ML.
- Build reproducible ML pipelines with version control and automation.
- Use CI/CD tools to test, validate, and deploy machine learning models.
- Containerize ML workflows using Docker and orchestrate with Kubernetes.
- Monitor model performance and detect drift in real-time.
- Apply security, governance, and compliance best practices in MLOps.
- Leverage cloud-based MLOps platforms like Azure ML, SageMaker, or Vertex AI.
- Collaborate across teams using robust CI/CD workflows for ML.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- The basics of MLOps and production-ready ML systems.
- CI/CD fundamentals adapted for machine learning workflows.
- Git-based version control and code collaboration.
- Automation with Jenkins, GitHub Actions, or GitLab CI.
- Containerization with Docker and deployment with Kubernetes.
- Model tracking and management using MLflow or DVC.
- Real-time monitoring, logging, and performance evaluation.
- Integrating with cloud MLOps platforms (AWS, Azure, GCP).
- Managing model drift, rollback, and continuous improvement.
- Hands-on labs for building and deploying end-to-end ML pipelines.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.
1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded