Azure Machine Learning and MLOps

Course Overview

Duration - 16 Hours | Level - Intermediate

This course covers the essentials of machine learning and how to leverage Azure's platform for building, deploying, and managing ML models. You'll learn about creating and managing the end-to-end lifecycle of ML models using Azure Machine Learning Studio and Azure AI Studio. You will understand the implementation of Generative AI. You'll explore advanced MLOps features for automating the ML lifecycle, GenAIOps and monitoring model performance.

Course Modules

Day 1

Introduction to Azure Machine Learning

What is machine learning?

What is Azure Machine Learning?

Azure Machine Learning CLI & Python SDK v2

Creating ML resources and getting started with Azure Machine Learning

Overview of Data concepts in Azure Machine Learning

Creating datastores

Creating connections (preview)

Understanding Managed feature store

Hands on labs

Prepare dataset, train and deploy a classification model, using Azure Machine Learning Studio

Create a labeled dataset using Azure Machine Learning data labeling tools

Develop and register a feature set with managed feature store and train models by using features

Day 2

Automating and deploying Azure Machine Learning models

Training models with Azure Machine Learning

Overview of Automated machine learning (AutoML)

Deploying Azure ML models

Monitoring models with Azure Machine Learning

Prompt flow and LLMOps

Semantic Kernel

MLflow and Azure Machine Learning

Hands on labs

Train a classification model with no-code AutoML in the Azure Machine Learning studio

Forecast demand with no-code Automated Machine Learning in the Azure Machine Learning studio

Train the best Regression model for the Hardware dataset

Day 3

Using Generative AI in Azure Machine Learning

Working with Azure Machine Learning pipelines and components

Understanding Model Catalog and Collections

Overview of Azure Machine Learning prompt flow

Understanding Retrieval Augmented Generation using Azure Machine Learning prompt flow (preview)

Implementing Vector stores in Azure Machine Learning (preview)

Model monitoring for generative AI applications (preview)

Hands on labs

Develop and test prompt flow from Azure Machine Learning Studio

Implementing QA data generation with RAG using a prompt flow

Day 4

Operationalize with MLOps

Operationalize with MLOps

Introduction to Git integration for Azure Machine Learning

Using Azure Pipelines with Azure Machine Learning

Using GitHub Actions with Azure Machine Learning

GenAIOps (LLMOps) for MLOps practitioners

Implementing GenAIOps with prompt flow and GitHub

Securing AI Applications on Azure

Implementing Security and governance for Azure Machine Learning

Responsible use of AI

Configuring Responsible AI dashboards

Sharing Responsible AI insights using the Responsible AI scorecard (preview)

Hands on labs

Set up MLOps with GitHub

Using the Responsible AI dashboard to improve performance of machine learning models and perform Model Analysis