Implement data science and machine learning for AI in Microsoft Fabric

Explore the data science process and learn how to train machine learning models to accomplish artificial intelligence in Microsoft Fabric.

Duration: 1 day (8 hours)

Audience: Data Scientist, Data Analyst, Data Engineer

Pre-Requisites: Fundamental understanding of Azure Machine Learning is required.

Module 1: Get started with data science in Microsoft Fabric

In Microsoft Fabric, data scientists can manage data, notebooks, experiments, and models while easily accessing data from across the organization and collaborating with their fellow data professionals.

- Introduction
- Understand the data science process
- Explore and process data with Microsoft Fabric
- Train and score models with Microsoft Fabric
- Exercise - Explore data science in Microsoft Fabric

Module 2: Explore data for data science with notebooks in Microsoft Fabric

Microsoft Fabric notebooks serve as a comprehensive tool for data exploration, enabling users to uncover hidden patterns and relationships in their datasets.

- Introduction
- Explore notebooks
- Load data for exploration
- Understand data distribution
- Check for missing data in notebooks
- Apply advanced data exploration techniques
- Visualize charts in notebooks
- Exercise: Use notebook for data exploration in Microsoft Fabric

Module 3: Preprocess data with Data Wrangler in Microsoft Fabric

Data Wrangler serves as a comprehensive tool for preprocessing data. It enables users to clean data, handle missing values, and transform features to build machine learning models.

- Introduction
- Understand Data Wrangler
- Perform data exploration
- Handle missing data
- Transform data with operators
- Exercise: Preprocess data with Data Wrangler in Microsoft Fabric

Module 4: Train and track machine learning models with MLflow in Microsoft Fabric

In Microsoft Fabric, data scientists can train models in notebooks, track their work in experiments, and manage their models with MLflow.

- Introduction
- Understand how to train machine learning models
- Train and track models with MLflow and experiments
- Manage models in Microsoft Fabric
- Exercise - Train and track a model in Microsoft Fabric

Module 5: Generate batch predictions using a deployed model in Microsoft Fabric

Save and use your machine learning models in Microsoft Fabric to generate batch predictions and enrich your data.

- Introduction
- Customize the model's behavior for batch scoring
- Prepare data before generating predictions
- Generate and save predictions to a Delta table
- Exercise - Generate and save batch predictions