Implementing a Machine Learning Solution with Azure Databricks (DP-3014)

Description

Our training course ‘Implementing a Machine Learning Solution with Azure Databricks (DP-3014)’ will unveil all the secrets of Machine Learning with Azure Databricks (DP-3014), specifically designed to equip you with advanced data analysis and machine learning skills at the cloud scale. This one-day course, led by experts, offers a full immersion into Azure Databricks, a versatile platform that revolutionizes the implementation of robust solutions for data scientists and machine learning engineers.

By covering modules from exploring Azure Databricks and using Apache Spark, to training deep learning models with PyTorch, this course: Implementing a Machine Learning Solution with Azure Databricks (DP-3014), prepares you to fully leverage the potential of your data and innovate in your professional projects.

Course Content
Module 1: Explore Azure Databricks

- Get started with Azure Databricks
- Identify Azure Databricks workloads
- Understand key concepts
- Data governance using Unity Catalog and Microsoft Purview

Module 2: Use Apache Spark in Azure Databricks

- Discover Spark
- Create a Spark cluster
- Use Spark in notebooks
- Use Spark to work with data files
- Visualize data

Module 3: Train a Machine Learning model with Azure Databricks

- Understand the principles of Machine Learning
- Machine Learning in Azure Databricks
- Prepare data for Azure Machine Learning
- Train a Machine Learning model

- Evaluate a Machine Learning model

Module 4: Use MLflow in Azure Databricks

- MLflow features
- Run experiments with MLflow
- Register and serve models with MLflow

Module 5: Tune hyperparameters in Azure Databricks

- Optimize hyperparameters with Hyperopt
- Review Hyperopt trials
- Scale Hyperopt trials

Module 6: Use AutoML in Azure Databricks

- What is AutoML?
- Use AutoML in the Azure Databricks UI
- Use code to run an AutoML experiment

Module 7: Train Deep Learning models in Azure Databricks

- Understand Deep Learning concepts
- Train models with PyTorch
- Distribute PyTorch training with TorchDistributor

Module 8: Manage Machine Learning in production with Azure Databricks

- Automate your data transformations
- Explore model development
- Explore model deployment strategies
- Manage model versions and lifecycle

Lab / Exercises

- This course provides you with exclusive access to the official Microsoft lab, enabling you to practice your skills in a professional environment.

Documentation

- Access to Microsoft Learn, Microsoft's online learning platform, offering interactive resources and educational content to deepen your knowledge and develop your technical skills.

Participant profiles

- Data Scientists
- Data Analysts
- Machine Learning Engineers
- Software Developers
- Computer Scientists

Prerequisites

- Proficiency in Python for data exploration and training machine learning models.
- Knowledge of popular open-source frameworks such as Scikit-Learn, PyTorch, and TensorFlow.

Objectives

- Master Azure Databricks for data analysis with Apache Spark.
- Gain hands-on experience in transforming, analyzing, and visualizing large-scale data.
- Develop skills in training machine learning models and evaluating their performance.
- Use MLflow effectively for managing the machine learning lifecycle.
- Optimize machine learning workflows with hyperparameter tuning via Hyperopt.
- Explore the automation of model building with AutoML in Azure Databricks.

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Implementing a Machine Learning Solution with Azure Databricks (DP-3014)
Niveau
Intermédiaire
Classroom Registration Price (CHF)
900
Virtual Classroom Registration Price (CHF)
850
Duration (in Days)
1
Reference
DP-3014