Practical Data Science with Amazon SageMaker

Duration: 1 Day **Course Code: GK0630** **Version: 1.0** **Delivery Method: Closed Events**

Overview:

Artificial intelligence and machine learning (AI/ML) are becoming mainstream. In this course, you will spend a day in the life of a data scientist so that you can collaborate efficiently with data scientists and build applications that integrate with ML. You will learn the basic process data scientists use to develop ML solutions on Amazon Web Services (AWS) with Amazon SageMaker. You will experience the steps to build, train, and deploy an ML model through instructor-led demonstrations and labs.
Course level: Intermediate
Duration: 1 day

Activities
This course includes presentations, hands-on labs, and demonstrations.

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

Target Audience:

- Development Operations (DevOps) engineers
- Application developers

Objectives:

- In this course, you will learn to:
- Discuss the benefits of different types of machine learning for solving business problems
- Describe the typical processes, roles, and responsibilities on a team that builds and deploys ML systems
- Explain how data scientists use AWS tools and ML to solve a common business problem
- Summarize the steps a data scientist takes to prepare data
- Summarize the steps a data scientist takes to train ML models
- Summarize the steps a data scientist takes to evaluate and tune ML models
- Summarize the steps to deploy a model to an endpoint and generate predictions
- Describe the challenges for operationalizing ML models
- Match AWS tools with their ML function

Prerequisites:

We recommend that attendees of this course have:

- AWS Technical Essentials
- Entry-level knowledge of Python programming
- Entry-level knowledge of statistics

Content:

Module 1: Introduction to Machine Learning

- Benefits of machine learning (ML)
- Types of ML approaches
- Framing the business problem
- Prediction quality
- Processes, roles, and responsibilities for ML projects

Module 2: Preparing a Dataset

- Data analysis and preparation
- Data preparation tools
- Demonstration: Review Amazon SageMaker Studio and Notebooks
- Hands-On Lab: Data Preparation with SageMaker Data Wrangler

Module 3: Training a Model

- Steps to train a model
- Choose an algorithm
- Train the model in Amazon SageMaker
- Hands-On Lab: Training a Model with Amazon SageMaker
- Amazon CodeWhisperer
- Demonstration: Amazon CodeWhisperer in SageMaker Studio Notebooks

Module 4: Evaluating and Tuning a Model

- Model evaluation
- Model tuning and hyperparameter optimization
- Hands-On Lab: Model Tuning and Hyperparameter Optimization with Amazon SageMaker

Module 5: Deploying a Model

- Model deployment
- Hands-On Lab: Deploy a Model to a Real-Time Endpoint and Generate a Prediction

Module 6: Operational Challenges

- Responsible ML
- ML team and MLOps
- Automation
- Monitoring
- Updating models (model testing and deployment)

Module 7: Other Model-Building Tools

- Different tools for different skills and business needs
- No-code ML with Amazon SageMaker Canvas
- Demonstration: Overview of Amazon SageMaker Canvas
- Amazon SageMaker Studio Lab
- Demonstration: Overview of SageMaker Studio Lab

(Optional) Hands-On Lab: Integrating a Web Application with an Amazon SageMaker Model Endpoint

Further Information:

For More information, or to book your course, please call us on 00 966 92000 9278

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