

Course Duration: 08 hours (1 Day)

No-code Machine Learning and Generative AI on AWS

With Amazon SageMaker Canvas, data and business analysts can prepare data, train, and deploy machine learning (ML) models without any ML experience or writing a single line of code. You will learn to build ML models without deep knowledge of ML. You can also practice what you learned in the course with the help of hands-on labs.

You will also learn to use foundation models from Amazon and other model providers to support generative AI use cases such as text generation, text summarization, and chat using retrieval augmented generation (RAG).

Course objectives

By the end of this course, participants will be able to:

- Describe basic machine learning (ML) concepts and techniques.
- Identify the ML life cycle and its phases.
- Describe the types of problems ML can solve.
- Identify the steps to building an ML model.
- Describe metrics for measuring the predictive accuracy of a model.
- Explain how to use Amazon SageMaker Canvas to transform raw data into a training dataset.
- Describe how to generate data insights and understand data quality.
- Identify how to find potential errors and extreme values in data with visualization tools.
- Describe the model building capabilities of SageMaker Canvas using AutoML.
- Use SageMaker Canvas to launch a model training job and track its progress.
- Describe the model quality metrics available in performance reports.
- Deploy a model and make predictions.
- Use the SageMaker Canvas foundational model (FM) user interface (UI) for text generation, text summarization, and model comparison.
- Identify and address challenges with foundation model outputs using RAG and fine-tuning.
- Describe best practices to follow when using Amazon SageMaker Canvas.

Prerequisites

- Experience with analysis, cleansing, and transforming tabular or time series data
- AWS Technical Essentials

Target Audience

- Data analysts
- Researchers from non-ML domains
- Operations research analysts
- Junior data scientists

Course outline

Module 1: Introduction to Machine Learning

- ML Introduction
- ML Basics
- Types of Problems ML Can Solve
- ML Life Cycle
- Challenges with Processing and Deriving Insights from Data Building and Evaluating Models
- Introduction to Model Building
- Model Evaluation
- Improving Model Performance
- Model Training Options

Module 2: Data Analysis and Preparation

- Introduction to Amazon SageMaker Canvas
- Amazon SageMaker Canvas
- Analyzing Data
- Quick Model Analysis
- Data Preparation
- Transforming Data

Hands-on Lab: Utilizing SageMaker Data Wrangler for data preparation.

Module 3: Model Building Using SageMaker Canvas

- Deep Dive on Sagemaker Canvas
- Introduction to Building a Model in SageMaker Canvas

- Advanced Options for Building Models in SageMaker Canvas
- Evaluating a Model in SageMaker Canvas
- Making Predictions and Deploying a Model in SageMaker Canvas

Module 4: Generative AI using SageMaker Canvas

- Foundational Models in SageMaker Canvas
- Generative AI using Amazon SageMaker Canvas
- SageMaker Canvas Foundation Models
- Comparing Foundation Models
- Model Hallucinations
- Retrieval Augmented Generation (RAG)

Hands-on Lab: Predict whether the customer will cancel their hotel reservation or not.