



Deep Learning on AWS

Course ID #: 7000-422-ZZ-Z

Hours: 7

Course Content

Course Description:

In this course, you will cover AWS's deep learning solutions, including scenarios where deep learning makes sense and how deep learning works. You'll learn how to run deep learning models on the cloud using Amazon SageMaker and the MXNet framework. You'll also learn to deploy your deep learning models using services like AWS Lambda while designing intelligent systems on AWS.

Course Objectives:

In this course, you will:

- Learn how to define machine learning (ML) and deep learning
- Learn how to identify the concepts in a deep learning ecosystem
- Use Amazon SageMaker and the MXNet programming framework for deep learning workloads
- Fit AWS solutions for deep learning deployments

Prerequisites:

- A basic understanding of ML processes
- Knowledge of AWS core services like Amazon EC2 and AWS SDK
- Knowledge of a scripting language like Python

Target Audience:

- Developers who are responsible for developing deep learning applications
- Developers who want to understand the concepts behind deep learning and how to implement a deep learning solution on AWS Cloud

Topics:

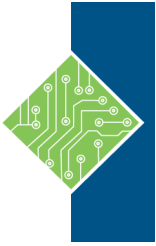
Lesson 1: Machine learning overview

- A brief history of AI, ML, and DL
- The business importance of ML
- Common challenges in ML
- Different types of ML problems and tasks
- AI on AWS

Lesson 2: Introduction to deep learning

- Introduction to DL
- The DL concepts
- A summary of how to train DL models on AWS
- Introduction to Amazon SageMaker

Lab: Spinning up an Amazon SageMaker notebook instance and running a multilayer perceptron neural network mode



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Lesson 3: Introduction to Apache MXNet

- The motivation for and benefits of using MXNet and Gluon
- Important terms and APIs used in MXNet
- Convolutional neural networks (CNN) architecture

Lab: Training a CNN on a CIFAR-10 dataset

Lesson 4: ML and DL architectures on AWS

- AWS services for deploying DL models (AWS Lambda, AWS IoT Greengrass, Amazon ECS, AWS Elastic Beanstalk)
- Introduction to AWS AI services that are based on DL (Amazon Polly, Amazon Lex, Amazon Rekognition)

Lab: Deploying a trained model for prediction on AWS Lambda

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