

Machine Learning With AWS

Course Summary

Description

Learn in detail how to use AWS to transform your projects into apps that work at high speed and are highly scalable. From natural language processing, (NLP) applications, such as language translation, understanding news articles and other text sources, to creating chatbots with both voice and text interfaces, to processing huge numbers of images fast, and creating machine learning models, you will learn all that there is to know about using AWS to your advantage.

Objectives

After taking this course, students will be able to:

- Get up and running with machine learning on the AWS platform
- Analyze unstructured text using AI and Amazon Comprehend
- Create a chatbot and interact with it using speech and text input
- Retrieve external data via your chatbot
- Develop a natural language interface
- Apply AI to images and videos with Amazon Rekognition

Topics

- Introduction to Amazon Web Services
- Summarize Text Documents Using NLP
- Perform Topic Modelling and Theme Extraction
- Creating a Chatbot with Natural Language
- Using Speech with the Chatbot
- Analyzing Images with Computer Vision

Audience

This course is ideal for data scientists, programmers, and machine learning enthusiasts, who want to learn about the artificial intelligence and machine learning capabilities of the Amazon Web Services.

Duration

Two Days

MACHINE LEARNING WITH AWS

Course Outline

I. Introduction to Amazon Web Services

- A. The basics of working on AWS using S3
- B. Importing and exporting data.
- C. Using the AWS console and identifying the services available for Machine Learning.
- D. Create a S3 bucket and import text data into it.

II. Summarize Text Documents Using NLP

- A. Using Amazon Comprehend to detect the language.
- B. Extract information such as entities (persons or places),
- C. key phrases (noun phrases indicative of the content),
- D. and emotional sentiment from a set of documents.
- E. Set up a Lambda function to process and analyze
- F. the imported text using Comprehend.

III. Perform Topic Modelling and Theme Extraction

- A. Understand what business use cases to apply the machine learning algorithm (Latent Dirichlet Allocation
- B. (LDA)) that is used for topic modeling.
- C. Extract and analyze common themes through topic modelling with Amazon Comprehend.
- D. Sample project: Perform topic modeling on a set of documents and analyze the results.

IV. Creating a Chatbot with Natural Language

- A. Explore the basics of chatbots and chatbot design.
- B. Set up with the Amazon Lex service and create a sample chatbot to order flowers.
- C. Create a custom chatbot which will look up market
- D. prices for a given stock

V. Using Speech with the Chatbot

- A. Set up Amazon Connect as a personal call center.
- B. Integrate the chatbot you built in the previous lesson with Amazon Connect.
- C. Interact with the chatbot using voice and speech by calling it.

VI. Analyzing Images with Computer Vision

- A. Use Rekognition service for image analysis using computer vision.
- B. Detect objects and scenes in images.
- C. Detect the need for content moderation in images.
- D. Analyze faces and recognize celebrities in images.
- E. Compare faces in different images to see how closely they match.
- F. Extract text from images