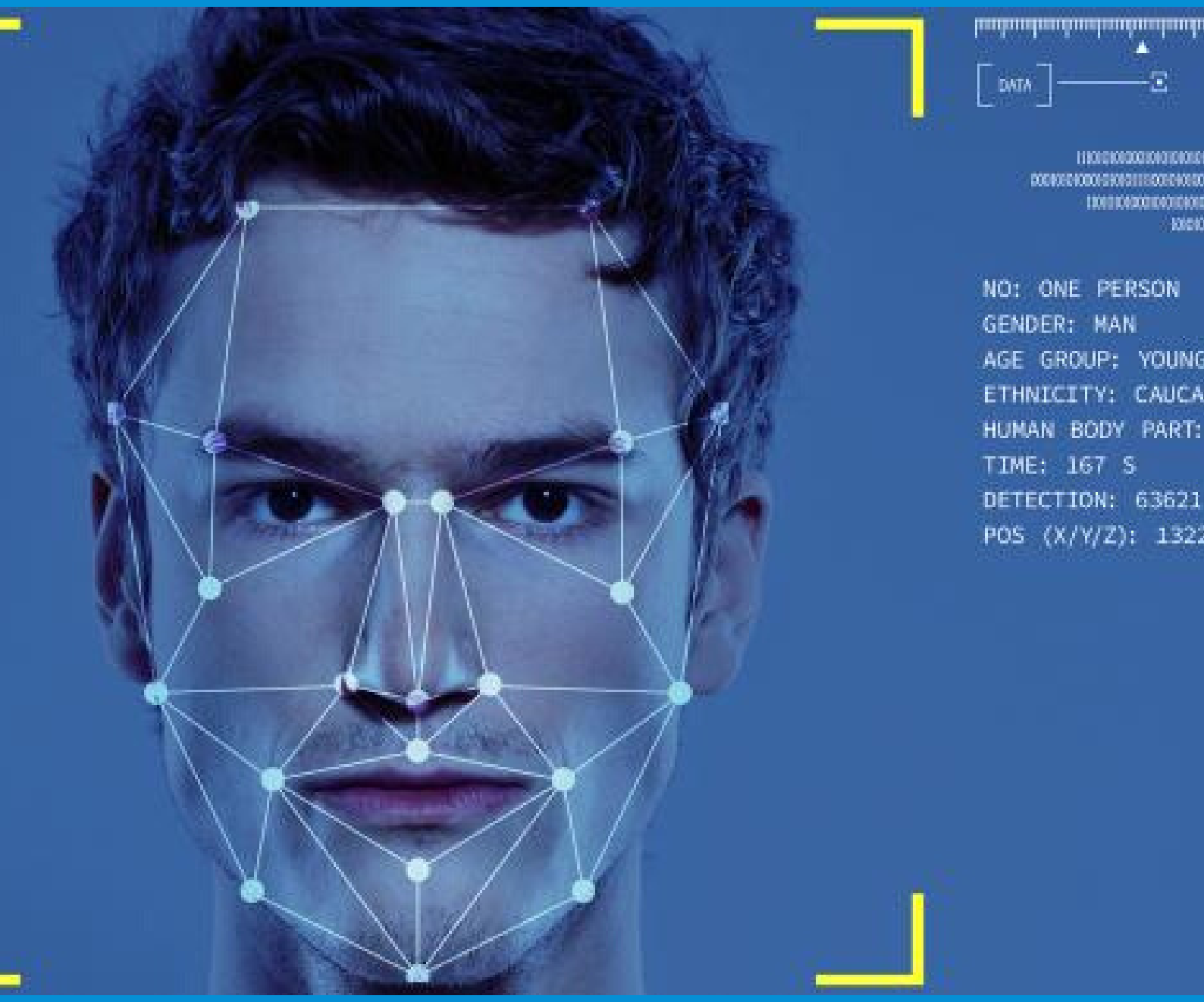
MACHINE LEARING ON MULTI CLOUD



CLOUDAGE

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COURSE SYLLABUS

Module 1: Machine Learning Fundamentals

- Artificial Intelligence
- What is Machine Learning?
- What Is Deep Learning?

Module 2: Machine Learning Concepts

- Machine Learning Lifecycle
- Supervised, Unsupervised, and Reinforcement
- Optimization
- Regularization
- Hyperparameters
- Validation

Module 3: Data

- Feature Selection and Engineering
- Principal Component Analysis (PCA)
- Missing and Unbalanced Dataning Lifecycle
- Label and One Hot Encoding
- Splitting and Randomization
- RecordIO Format

Module 4: Machine Learning Algorithms

- Logistical Regression
- Linear Regression
- Support Vector Machines
- Decision Trees
- Random Forests
- K-Means
- K-Nearest Neighbour
- Latent Dirichlet Allocation (LDA) Algorithm

Module 5: Deep Learning Algorithms

- Neural Networks
- Convolutional Neural Networks (CNN)
- Recurrent Neural Networks (RNN)

Module 6: Model Performance and Optimization

- Confusion Matrix
- Sensitivity and Specificity
- Accuracy and Precision
- ROC/AUC
- Gini Impurity
- F1 Score

Module 7: Machine Learning Tools and Frameworks

- Introduction to Jupyter Notebooks
- ML and DL Frameworks
- TensorFlow
- PyTorch
- MXNet
- Scikit-learn

AWS Machine Learning

Module 8: AWS Services

- S3
- Glue
- Athena
- QuickSight
- Kinesis, Streams, Firehose, Video, and Analytics
- EMR with Spark
- EC2 for ML
- Amazon ML

Module 9: AWS Application Services AI/ML

- Amazon Rekognition (Images) Part 1
- Amazon Rekognition (Images) Part 2 - the API
- Amazon Rekognition (Video)
- Amazon Polly
- Amazon Transcribe
- Amazon Translate
- Amazon Comprehend
- Amazon Lex
- Amazon Service Chaining with AWS Step Functions
- Using AWS Step Functions to Manage a Long-Running Process
- Perform Parallel Execution in AWS Step Functions

Amazon SageMaker

Module 10: Introduction

- What is Amazon SageMaker?
- The Three Stages
- Control (Console/SDK/Notebooks)
- SageMaker Notebooks

Module 11: Build

- Data Preprocessing
- Ground Truth
- Preprocessing Image Data (Pinehead NotPinehead)
- Algorithms

Module 12:Train

- SageMaker Algorithms
- Training an Image Classifier
- Hyperparameter Tuning

Module 13: Deploy

- Inference Pipelines
- Real-Time and Batch Inference
- Deploy an Image Classifier
- Accessing Inference from Apps
- Createva custom API for inference

Module 14: Security

- Securing SageMaker Notebooks
- SageMaker and the VPC

Module 15: Other AWS Services

- DeepLens
- DeepRacer

Google Cloud AI Services Deep Dive

Module 16: Overview

- What Is AI/ML?
- Understanding Google Cloud AI and Machine Learning
- Targeting Cloud AutoML

Module 17:AI Sight

- Identifying Images with Vision AI
- Examining Video AI
- Applying Google Cloud Vision AI

Module 18:AI Language

- Extracting Data with Natural Language
- Automating Translation
- Enabling Google Cloud Translation

Module 19: AI Conversation

- Recognizing Speech-to-Text
- Empowering Text-to-Speech
- Conversing with Dialogflow
- Setting Up Google Cloud Text-to-Speech

Module 20: AI Structured Data

- Structuring AutoML Tables
- Establishing Recommendations
- Executing BigQuery ML

Azure Machine Learning

Module 21: Introduction to Azure Machine Learning

- An Overview of the Data Science Lifecycle
- Quantify the Business Problem
- The Basics of Azure Machine Learning
- Introduction to Azure Machine Learning Development Environments Azure Notebook
- Jupyter Notebooks
- Zeppelin Notebooks
- Exam Essentials and References - AML Introduction

Module 22:Create an Azure Machine Learning Workspace

- An Introduction to the Azure Machine Learning Workspace
- Accompanying Resources with Azure Machine Learning Workspaces
- Access Control (IAM)
- Create an Azure Machine Learning Workspace
- Configure Workspace Settings
- Manage a Workspace by Using Azure Machine Learning Studio
- Exam Essentials and References - AML Workspace Creation

Module 23: Manage Experiment Compute Contexts

- An Overview of Experiments in Azure Machine Learning
- Create a Compute Instance
- Create Compute Targets for Experiments and Training
- Exam Essentials and References - AML Compute

Module 24: Design the Data Preparation Flow

- Azure Data Factory
- Spark
- Azure Machine Learning Versus HDInsight with Spark Cluster
- Azure Databricks
- Docker

Module 25:Manage Data Objects in an Azure Machine Learning Workspace

- Pipelines in Azure Machine Learning
- Datasets and Dataset Management
- Register and Maintain Data Stores
- Create and Manage Datasets
- A Word on Data Drift
- AML Data Management

About Us

A Big Data consulting and solutions provider offering services and training for Big Data Cloud and Machine Learning

We at CloudAge Provide Hadoop Managed Services to Help Traditional Enterprises adopt Apache Hadoop. we Provide Solutions that includes data preparation, data discovery, data availability, and Data Analytics.

Our expertise with Enterprise Distributions deliver a modern platform for analytics data management offerings, in AWS datacenter, Enterprises get one place to store, access, process, secure, and analyse all their data, empowering them to extend the value of existing investments while enabling fundamental new ways to derive value from their data. Apache Hadoop Open source big data platform is the most widely adopted in the world, and As the leading educator of Hadoop professionals, CloudAge has trained over 1200 individuals worldwide and a seasoned professional services team to help deliver greater time to value.

CloudAge provides best-in-class, technology-managed services and solutions to enterprises that are looking to unlock the potential in their data without the time, cost and complexity associated with traditional big data initiatives. CloudAge delivers an end-to-end solution, so that time is better spent analysing and driving business value from big data. CloudAge provides a full spectrum of services in a private cloud that leverages Hadoop, and helps businesses perform complex analytics and batch-production schedules not possible prior to Hadoop. CloudAge offers a mix of speed, scale, skills, and end-to-end solutions unavailable anywhere else in the big data space.

Insights with Faster Time-to-Value

The analysis of data drives decisions in every business. To gain better business insights, you need to manage the volume, variety, and velocity of data, while applying analytics. With Lenovo-engineered big data validated designs on Lenovo servers, you can harness the power of Apache™ Hadoop® and Apache™ Spark® with Cloudera®, Hortonworks®, IBM® and MapR®. Lenovo servers provide highly reliable and flexible foundations for your business analytics solutions so you can unlock the value of your data and deliver insights faster.

* Outstanding scalability so you can grow as your workloads grow
* Industry-leading transaction processing so you can make better, faster business decisions
* High-throughput capacity that enables you to respond more quickly
* Optimized systems and validated designs for faster time to value