AI & Agentic Workflow Essentials

This course starts with providing an overview of AI concepts and workflows, machine learning, deep learning, and performance metrics. You'll learn the difference between supervised, unsupervised, and reinforcement learning; be exposed to use cases, and see how clustering and classification algorithms help identify AI business applications.

The course introduces you to the concept of autonomous, intelligent workflows that automate tasks and make decisions based on predefined rules. Learn how to design, implement, and optimize agentic workflows to improve business efficiency, streamline processes, and enhance decision-making.

Total Duration
4 Hours

Learning Format
Online and On-demand

Total No. Of Certificates
Two

Course Curriculum

Introduction to Artificial Intelligence

Lesson 00 - Course Introduction

Lesson 01 - Decoding Artificial Intelligence
- 01 Decoding Artificial Intelligence
- 02 Meaning, Scope, and Stages Of Artificial Intelligence
- 03 Three Stages of Artificial Intelligence
- 04 Applications of Artificial Intelligence
- 05 Image Recognition
- 06 Applications of Artificial Intelligence - Examples
- 07 Effects of Artificial Intelligence on Society
- 08 Supervises Learning for Telemedicine
- 09 Solves Complex Social Problems
- 10 Benefits Multiple Industries
- 11 Key Takeaways
- Knowledge Check

Lesson 02 - Fundamentals of Machine Learning and Deep Learning
- 01 Fundamentals Of Machine Learning and Deep Learning
- 02 Meaning of Machine Learning
- 03 Relationship between Machine Learning and Statistical Analysis

04 Process of Machine Learning
05 Types of Machine Learning
06 Meaning of Unsupervised Learning
07 Meaning of Semi-supervised Learning
08 Algorithms of Machine Learning
09 Regression
10 Naive Bayes
11 Naive Bayes Classification
12 Machine Learning Algorithms
13 Deep Learning
14 Artificial Neural Network Definition
15 Definition of Perceptron
16 Online and Batch Learning
17 Key Takeaways
Knowledge Check

Lesson 03 - Machine Learning Workflow
01 Learning Objective
02 Machine Learning Workflow
03 Get more data
04 Ask a Sharp Question
05 Add Data to the Table
06 Check for Quality
07 Transform Features
08 Answer the Questions
09 Use the Answer
11 Key takeaways
Knowledge Check

Lesson 04 - Performance Metrics
01 Performance Metrics
02 Need For Performance Metrics
03 Key Methods Of Performance Metrics
04 Confusion Matrix Example
05 Terms Of Confusion Matrix
06 Minimize False Cases
07 Minimize False Positive Example
08 Accuracy
09 Precision
10 Recall Or Sensitivity
11 Specificity
12 F1 Score
13 Key takeaways
Knowledge Check

Introduction to Agentic Workflows

Introduction

Lesson 1: Introduction to Amazon Bedrock

Lesson 2: Build a Simple Cloud Based Agent

Lesson 3: Connecting Agent to External Services

Lesson 4: Guardrails in Amazon Bedrock

Lesson 5: Give the Agent a Code Interpreter

Lesson 6: Connecting Agent to Access Customer Support Repository

Lesson 7: Amazon Bedrock Console

5+ Skills Covered

- AI Basics
- Machine LearningNeural Networks and NLP
- Data Handling amp Preprocessing
- AI Tools amp Frameworks
- ProblemSolving with AI