

Machine Learning

LEARN

CERTIFY

ENGAGE

COMPETE

COURSE OUTLINE

Module 1 **Introduction to Machine Learning**

Module 2 **Data Preprocessing and Exploration**

Module 3 **Supervised Learning Algorithms**

Module 4 **Unsupervised Learning Algorithms**

Module 5 **Ensemble Learning and Model Improvement**

Module 6 **Neural Networks and Deep Learning**

Module 7 **Special Topics in Machine Learning**

Module 8 **Machine Learning in Production**

Module 9 **Practical Projects and Case Studies**

Module 10 **Final Project**

Module 01 Introduction to Machine Learning

What is Machine Learning?

Key Concepts and Terminology

Module 02 Data Preprocessing and Exploration

Data Preprocessing Techniques

Data Exploration and Visualization

Practical Implementation

Module 03 Supervised Learning Algorithms

Regression Algorithms

Classification Algorithms

Practical Implementation

Module 04 Unsupervised Learning Algorithms

Clustering Algorithms

Dimensionality Reduction

Practical Implementation

Module 05 Ensemble Learning and

Model Improvement

Ensemble Methods

Hyperparameter Tuning

Practical Implementation

Module 06 Neural Networks and

Deep Learning

Introduction to Neural Networks

Deep Learning Architectures

Practical Implementation

Module 07 Special Topics in

Machine Learning

Natural Language Processing (NLP)

Time Series Analysis

Practical Implementation

Module 08 Machine Learning in

Production

Model Deployment

Model Monitoring and Maintenance

Practical Implementation

Module 09 Practical Projects and

Case Studies

Project Planning and Dataset Preparation

Model Building and Training

Deployment and Production

Module 10 Final Project

Project Proposal

Implementation

Evaluation and Presentation

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