London TDM

Artificial Intelligence and Data Science Training Courses

Course Venue: United Arab Emirates - Dubai

Course Date: From 19 October 2025 To 23 October 2025

Course Place: Downtown Dubai

Course Fees: 5,000 USD

Introduction

Welcome to the "Deep Learning with Neural Networks" course. This 5-day program is designed to provide a comprehensive understanding of the fundamental concepts and practical implementations of deep learning using neural networks. Whether you're a beginner or have some experience, this course will equip you with the knowledge and skills to build and optimize your neural network models.

Objectives

- Understand the basics of neural networks and deep learning.
- Implement practical deep learning models using popular frameworks.
- Learn about different architectures and their applications.
- Optimize neural networks for improved performance and accuracy.
- Apply deep learning techniques to real-world scenarios and datasets.

Course Outlines

Day 1: Introduction to Deep Learning and Neural Networks

- Overview of Artificial Intelligence and Machine Learning
- Introduction to Neural Networks
- Understanding Neurons, Layers, and Activation Functions
- The Concept of Deep Learning
- Setting up the Deep Learning Environment

Day 2: Understanding Neural Network Architectures

- Feedforward Neural Networks
- Convolutional Neural Networks (CNNs)
- Recurrent Neural Networks (RNNs)
- Transfer Learning Concepts
- Choosing the Right Architecture for Your Task

Day 3: Hands-On with Neural Networks

- Data Preprocessing and Augmentation Techniques
- Building and Training Your First Neural Network
- Using Keras and TensorFlow for Model Building
- Evaluating Model Performance
- Hyperparameter Tuning

Day 4: Specialized Deep Learning Techniques

- Introduction to GANs (Generative Adversarial Networks)
- Understanding Reinforcement Learning with Neural Networks
- Advanced Optimization Techniques
- Handling Overfitting and Underfitting
- Exploring Autoencoders for Feature Extraction

Day 5: Applying Deep Learning - Case Studies and Projects

- Implementing a Real-World Deep Learning Project
- Case Study: Image Classification with CNNs
- Case Study: Time Series Prediction with RNNs
- Integrating Deep Learning with Cloud Services
- Project Presentation and Feedback Session