



London TDM

# Artificial Intelligence and Data Science Training Courses

**Course Venue:** United Kingdom - London

**Course Date:** From 11 January 2026 To 15 January 2026

**Course Place:** London Paddington

**Course Fees:** 7,500 USD

## Introduction

This 5-day intensive professional course is designed to equip participants with the necessary skills and knowledge to leverage Python for data science and artificial intelligence applications. Participants will engage in hands-on sessions, expert-led discussions, and real-world case studies to enhance their understanding of Python's role in data-driven decision-making and AI development.

## Objectives

- Understand the core concepts of Python programming for data science and AI.
- Learn how to manipulate, analyze, and visualize data using Python libraries.
- Develop machine learning models using Python tools and libraries.
- Explore deep learning principles and frameworks to build AI applications.
- Integrate ethical considerations in AI development and data analysis.

## Course Outlines

### Day 1: Introduction to Python and Data Science

- Overview of Python programming language and environment setup
- Basic syntax, data types, and operations in Python
- Introduction to Jupyter Notebook and its features
- Working with Python libraries: NumPy and Pandas for data manipulation
- Hands-on session: Performing basic data analysis using Python

### Day 2: Data Cleaning and Visualization

- Understanding data cleaning processes and techniques
- Exploratory data analysis with Pandas
- Data visualization techniques using Matplotlib and Seaborn
- Case study: Analyzing real-world datasets
- Practical exercises: Data cleaning and visualization

### Day 3: Introduction to Machine Learning

- Overview of machine learning concepts and types
- Supervised vs. unsupervised learning
- Building and evaluating machine learning models with Scikit-Learn
- Introduction to model optimization and hyperparameter tuning
- Hands-on session: Developing basic machine learning models

### Day 4: Deep Learning and AI Frameworks

- Concepts of deep learning and neural networks
- Introduction to AI frameworks: TensorFlow and Keras
- Building and training neural networks for image and text data
- Case study: Implementing deep learning models for AI solutions
- Practical exercises: Building AI models using TensorFlow

## **Day 5: Advanced Topics and Ethical Considerations**

- Advanced data science techniques: NLP and time series analysis
- AI ethics and responsible AI development
- Bias and fairness in AI models and data analysis
- Future trends in data science and AI
- Course review and certification exam