London TDM

Artificial Intelligence and Data Science Training Courses

Course Venue: United Kingdom - London

Course Date: From 08 February 2026 To 12 February 2026

Course Place: London Paddington

Course Fees: 7,500 USD

Introduction

In the ever-evolving world of big data, understanding and working with data streams in real-time has become a critical skill for data professionals. This course, "Real-Time Data Analytics and Stream Processing," aims to equip participants with the knowledge and tools necessary to design and implement effective stream processing solutions. Through hands-on workshops and case studies, participants will learn state-of-the-art techniques and best practices to transform real-time data into actionable insights.

Objectives

- Understand the fundamentals of real-time data processing and analytics.
- Learn about various streaming platforms and tools.
- Develop the ability to process and analyze data in real-time.
- Gain hands-on experience with popular stream processing frameworks.
- Apply real-time analytics to solve business problems and improve decision-making.

Course Outlines

Day 1: Introduction to Real-Time Data Analytics

- Overview of real-time data processing and its significance
- Components of a real-time analytics ecosystem
- Introduction to data streaming concepts
- Exploring use cases and industry applications
- Setting up the learning environment and tools overview

Day 2: Streaming Data Platforms and Tools

- Introduction to popular streaming platforms: Apache Kafka, Apache Flink, and others
- Setting up and configuring streaming platforms
- Understanding message brokers and pub/sub systems
- Hands-on lab: Building a simple data pipeline
- Real-world examples of streaming architectures

Day 3: Stream Processing Techniques and Frameworks

- Understanding stream processing models: Processing guarantees and fault tolerance
- Overview of processing frameworks: Spark Streaming, Flink, and Storm
- Hands-on lab: Implementing stream processing with Apache Spark
- Event time and processing time considerations
- Case studies on stream processing solutions

Day 4: Real-Time Data Analytics Applications

- Introduction to real-time analytics applications
- Real-time alerting and monitoring systems
- Integrating machine learning models in real-time pipelines
- Hands-on lab: Using Flink for real-time analytics

- Best practices for maintaining low-latency systems

Day 5: Advanced Topics and Capstone Project

- Working with stateful streaming applications
- Exploring advanced topics: Windowing and stream joins
- Optimizing and scaling stream processing solutions
- Capstone project work: Designing a custom real-time solution
- Presentation of projects and course wrap-up