



مركز الوقت للتدريب
Time Training Center

BIG DATA & MACHINE LEARNING COURSE



Introduction

This course provides a comprehensive introduction to the integration of Big Data and Machine Learning, equipping participants with the skills to manage and analyze vast datasets effectively. It is designed for professionals who want to leverage machine learning techniques in large-scale data environments. Participants will learn how to prepare data, apply scalable machine learning algorithms, and deploy models in real-world scenarios, making it a highly valuable course for today's data-driven industries.

Learning Objectives

- Understand Big Data and Machine Learning integration
- Perform data preparation and feature engineering
- Apply scalable machine learning algorithms
- Evaluate model performance on large datasets
- Deploy ML models in cloud environments
- Develop end-to-end Big Data ML solutions

Course Details

Mode of Training	Classroom or Online
Duration	5 Days

Who Should Attend?

- Data Scientists and Data Analysts
- Software Engineers and Developers
- IT Professionals working with Big Data
- AI and Machine Learning Enthusiasts
- Business Intelligence Professionals

Certificate(s)

Participants who complete a minimum of 80% of the total training hours will receive a **Certificate of Completion** issued by **Time Training Center**. This certificate reflects their active participation and commitment to professional development in the relevant field.

Course Outline

Module 1: Introduction to Big Data and Machine Learning

- Understanding the intersection of Big Data and Machine Learning
- Key challenges and opportunities in Big Data environments
- Overview of the data-to-AI lifecycle

Module 2: Data Preparation and Exploration

- Techniques for exploring and cleaning large datasets
- Feature engineering and selection for big data
- Tools for Big Data preprocessing (e.g., Apache Spark, BigQuery)

Module 3: Machine Learning Fundamentals for Big Data

- Types of machine learning: supervised, unsupervised, and reinforcement learning
- Popular algorithms adapted for big data (Decision Trees, SVM, Deep Learning)
- Evaluating model performance on large datasets

Module 4: Building Scalable Machine Learning Models

- Introduction to scalable ML frameworks and libraries
- Distributed computing concepts for ML (Hadoop, Spark MLlib)
- Dimensionality reduction and online learning techniques (SGD, Feature Hashing)

Module 5: Practical Applications and Case Studies

- Real-world case studies: predictive analytics, recommendation systems, anomaly detection
- Building and deploying machine learning models in cloud environments (Google Cloud Vertex AI, AutoML)
- Common pitfalls and best practices in Big Data ML projects

Module 6: Hands-on Project

- Designing and implementing a Big Data Machine Learning solution
- End-to-end workflow: Data ingestion → Model development → Deployment
- Presentation of project outcomes and key learnings



Methodology

We employ a comprehensive and applied learning strategy, integrating theory with real-world implementation:

- ❖ **Conceptual Learning:** Expert-led sessions on catalytic theory and engineering principles
- ❖ **Interactive Workshops:** Group exercises, presentations, and technical discussion forums
- ❖ **Case-Based Learning:** Industry-specific examples and troubleshooting scenarios
- ❖ **Technology Integration:** Digital tools, simulations, and catalyst modeling applications
- ❖ **Assessment:** Pre-tests, post-tests, and Competence Validation Exams for Certified courses to ensure knowledge transfer and skills validation

Note: Instructors may adjust the training approach to fit technical requirements or participant engagement levels.

Instructors

Our instructors for this course are highly experienced professionals specializing in Architecture, MEP Engineering, and BIM technologies. With over a decade of hands-on project experience in diverse sectors, they are adept at simplifying complex software functionalities into easily graspable concepts. Trainers emphasize real-world practices, enabling learners to confidently tackle design and coordination challenges. Detailed instructor profiles will be shared upon course scheduling.

About Time Training Center

Time Training Center is a leading professional training institute in Abu Dhabi that provides students and professionals with quality education and skill development programs. Time Training Center is accredited by the Abu Dhabi Center for Technical Vocational Education & Training (ACTVET) with a specialization in Computer and Management Training programs and certified by QA QC with ISO 9001:2015.

Operating in Abu Dhabi for over 3 decades, Time Training Center has established brand value as a high-quality Management & Technical Training Center in Abu Dhabi. We have also secured strong loyalty from corporate companies and associations with our holistic and practical teaching approach.

Contact us at
Time Training Center
Office 901
Khalaf Al Otaiba Tower,
Electra Street - Abu Dhabi - United Arab Emirates
Phone: +97126713828
Whatsapp: +971558564000
E-mail: info@timetraining.ae