

# BIG DATA AND ARTIFICIAL INTELLIGENCE PRINCIPLES AND PRACTICES

*“Leverage Big Data and AI to Drive Insights, Innovation, and Business Transformation”*

## Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

## Introduction

The combination of Big Data and Artificial Intelligence (AI) is transforming industries by enabling organizations to harness massive volumes of data and extract actionable insights. Big Data provides the infrastructure and analytical techniques to process vast datasets, while AI applies machine learning, deep learning, and predictive analytics to automate decision-making and drive innovation. The Big Data and AI Principles and Practices Training course focuses on developing practical skills to collect, process, and analyze data, build AI models, and implement intelligent solutions. Participants will gain hands-on experience with Big Data platforms, AI algorithms, and real-world case studies, equipping them to solve complex business and technical challenges efficiently.

## Objectives

- By the end of this course, participants will be able to:
- Understand the fundamentals of Big Data and AI technologies.
  - Learn data collection, preprocessing, and storage techniques for large datasets.
  - Apply machine learning and deep learning algorithms to extract insights.
  - Utilize AI tools for natural language processing, computer vision, and predictive analytics.
  - Analyze Big Data using modern platforms and frameworks (Hadoop, Spark, etc.).
  - Evaluate AI models for accuracy, reliability, and scalability.
  - Implement practical AI solutions for real-world problems.
  - Understand ethical, privacy, and security considerations in Big Data and AI.

## Why Attend

In today's data-driven world, the ability to process large datasets and apply AI for intelligent decision-making is a highly sought-after skill. This course equips professionals with hands-on expertise in Big Data analytics and AI applications, enabling them to create innovative solutions, optimize operations, and support strategic decision-making. Participants gain industry-ready knowledge applicable across diverse sectors.

## Target Audience

This course is suitable for:

- Data Scientists and Analysts
- IT Professionals and Software Developers
- Business Analysts and Decision-Makers
- Engineers and Technology Enthusiasts
- Students and Graduates seeking advanced AI and Big Data skills
- Professionals involved in data-driven projects or AI initiatives

## Individual Benefits

- Gain hands-on experience with Big Data platforms and AI tools.
- Learn to design and implement AI models using real-world datasets.
- Enhance analytical, problem-solving, and decision-making skills.
- Increase professional value and employability in AI and data analytics domains.
- Build confidence in applying AI and Big Data solutions to business and technology problems.
- Develop the ability to innovate and drive data-driven transformation initiatives.

## Organizational Benefits

- Leverage Big Data and AI to improve business processes and decision-making.
- Optimize operations, reduce costs, and enhance efficiency.
- Support innovation and digital transformation strategies.
- Build in-house expertise in AI, machine learning, and Big Data analytics.
- Improve predictive analytics, forecasting, and strategic planning capabilities.
- Foster a culture of data-driven decision-making and innovation.

## Instructional Methodology

The training employs a practical, project-based approach through:

- Interactive lectures on Big Data concepts and AI methodologies
- Hands-on exercises with Big Data platforms (Hadoop, Spark) and AI frameworks (Python, TensorFlow, etc.)
- Real-world case studies of Big Data and AI applications
- Step-by-step tutorials for data preprocessing, model building, and analysis
- Group projects and collaborative exercises to solve practical challenges
- Assignments focused on AI algorithm implementation and data analytics
- Continuous feedback and Q&A sessions for individual improvement

## Course Outline

- Module 1: Introduction to Big Data and AI – Concepts, Trends, and Applications
- Module 2: Data Collection, Storage, and Preprocessing Techniques
- Module 3: Machine Learning Fundamentals – Supervised, Unsupervised, and Reinforcement Learning
- Module 4: Deep Learning and Neural Networks
- Module 5: Natural Language Processing (NLP) and Computer Vision Applications
- Module 6: Big Data Platforms – Hadoop, Spark, and Data Lakes
- Module 7: AI Model Evaluation, Optimization, and Deployment
- Module 8: Predictive Analytics and Business Intelligence Applications
- Module 9: Ethical, Privacy, and Security Considerations in Big Data and AI
- Module 10: Capstone Project – Developing a Big Data and AI Solution for Real-World Problem

## Certification

Upon successful completion, participants will receive a Certificate in Big Data and Artificial Intelligence Principles and Practices, recognizing their proficiency in leveraging Big Data and AI technologies to analyze, innovate, and drive business and technological transformation.

## Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

### In-House / Customized Training

Interested in running this course for your team?

Please contact us:

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