



Technocation Freelancing Training Institute And Software House

AI and Big Data Certification Module

MODULE 1: Introduction to Big Data & AI

- What is Big Data and why it matters
- What is Artificial Intelligence in simple words
- How both work together in daily life
- Course roadmap and learning goals

MODULE 2: Big Data Basics

- Types of data: structured & unstructured
- Sources of Big Data in real life
- How Big Data is collected and stored
- Challenges of handling large data

MODULE 3: Big Data Tools & Technologies

- Introduction to Hadoop & Spark
- Basics of cloud storage for data
- Understanding databases (SQL & NoSQL)
- Data pipelines in simple steps

MODULE 4: Data Preprocessing & Cleaning

- Why clean data is important
- Removing errors and missing values
- Organizing data for analysis
- Tools for preprocessing (Python, Excel)

MODULE 5: Data Visualization

- What is data visualization
- Charts, graphs, and dashboards basics
- Tools: Tableau, Power BI, Matplotlib

- Importance of storytelling with data

MODULE 6: Introduction to AI & Machine Learning

- Difference between AI, ML, and Deep Learning
- How machines learn from data
- Supervised vs Unsupervised learning
- Real-world uses of ML models

MODULE 7: Machine Learning Algorithms

- Basics of regression and classification
- Decision trees and clustering
- Neural networks intro in simple form
- When to use which algorithm

MODULE 8: AI & Big Data Applications

- AI in healthcare, finance, and transport
- Big Data in social media and marketing
- Recommendation systems (Netflix, YouTube)
- Smart cities and IoT examples

MODULE 9: Natural Language Processing (NLP)

- What is NLP in easy words
- How chatbots and voice assistants work
- Text analysis and sentiment detection
- Common NLP tools (NLTK, SpaCy)

MODULE 10: Computer Vision Basics

- What is computer vision
- Image recognition and object detection
- AI in cameras and self-driving cars
- Tools: OpenCV and TensorFlow

MODULE 11: Big Data & AI in Cloud

- Cloud storage for Big Data
- AI services in cloud (AWS, Azure, GCP)
- Easy deployment of AI models
- Scalability for businesses

MODULE 12: Ethics & Future of AI & Big Data

- Importance of data privacy
- AI bias and fairness issues
- Responsible use of Big Data
- Future trends in AI & Big Data

MODULE 13: Certification Module

- Revise all course modules
- Hands-on project with AI or Big Data
- Presentation of work for assessment
- Earn your professional certificate

+92 308 514 5822

www.technocation.pk

info@technocation.pk

