Lakshya institute of technology

AI/ML Practical Mastery Course (3 Months)

For Students & Professionals | Duration: 3 Months

Course Overview

This course provides complete practical knowledge of Artificial Intelligence and Machine Learning. Students will learn Python, Machine Learning, Deep Learning, Computer Vision, and Natural Language Processing through real-world projects. By the end, participants will be able to build and deploy projects like image generators, video detectors, chatbots, and intelligent prediction systems.

Course Duration

Total Duration: 3 Months

Mode: Practical and Project Based

UNIT 1: Python and AI Fundamentals

- Chapter 1: Introduction & Image Generation with Python
- Chapter 2: GIF Creation with Python
- Chapter 3: Working with Videos
- Chapter 4: Object Detection Basics

UNIT 2: Core Machine Learning Concepts

- Chapter 5: Data Handling and Visualization
- Chapter 6: Supervised Learning Algorithms
- Chapter 7: Decision Trees and Random Forest
- Chapter 8: Model Optimization and Tuning
- Chapter 9: Unsupervised Learning
- Chapter 10: Dimensionality Reduction

UNIT 3: Deep Learning and Computer Vision

- Chapter 11: Neural Network Fundamentals
- Chapter 12: Image Classification with CNN
- Chapter 13: Advanced CNNs and Transfer Learning
- Chapter 14: Object Detection with YOLO/SSD
- Chapter 15: Generative AI and GANs
- Chapter 16: AI Image Generation with APIs

UNIT 4: NLP (Natural Language Processing) and LLMs

- Chapter 17: NLP Basics
- Chapter 18: Machine Learning for NLP
- Chapter 19: Deep Learning for NLP
- Chapter 20: Transformers and BERT
- Chapter 21: Large Language Models (LLMs)
- Chapter 22: Building Custom LLM Applications

UNIT 5: Final Projects and Deployment

- Chapter 23: Model Deployment
- Chapter 24: Final Project and Presentation

Learning Outcomes

By the end of this course, learners will be able to:
- Build practical AI applications for image, video, and text.
- Train and deploy ML and Deep Learning models.
- Work confidently with NLP and Large Language Models.
- Create and deploy real-world AI-powered web applications.