

Artificial Intelligence & Deep Learning Training Program

(Intelligent Systems & Advanced AI Course)

Overview

The Artificial Intelligence & Deep Learning Training Program is designed to equip participants with the knowledge and practical skills to build intelligent systems capable of learning, reasoning, and making decisions.

The program covers:

- **Artificial Intelligence (AI)** for problem-solving
- **Machine Learning (ML)** for data-driven predictions
- **Deep Learning (DL)** for advanced neural networks

These technologies are widely used in healthcare, finance, automation, robotics, and computer vision.

Objectives

Participants will:

- Understand core AI, ML, and Deep Learning concepts
- Build and train machine learning and deep learning models
- Work with real-world datasets
- Develop AI-based applications
- Gain industry-ready skills in intelligent systems

Tools & Technologies Used

Programming & Data:

- Python
- NumPy, Pandas, Matplotlib

AI / ML / DL Frameworks:

- TensorFlow
- PyTorch
- Scikit-learn

Development Tools:

- Jupyter Notebook
- VS Code

Computer Vision:

- OpenCV

NLP & AI Tools:

- NLTK / SpaCy

Outcomes

1. Understand AI, ML, and Deep Learning concepts
2. Build predictive and intelligent models
3. Develop deep learning models for images and text
4. Work with real-world datasets and solve problems
5. Prepare for roles in AI and Data Science

Curriculum:

1. Introduction to Artificial Intelligence

Learn fundamentals of AI, types of AI, and real-world applications.

2. Python Programming for AI

Learn Python basics and libraries for data handling and visualization.

Tools Used:

- Python, NumPy, Pandas

3. Data Preprocessing & Analysis

Learn data cleaning, feature selection, and visualization techniques.

Tools Used:

- Pandas, Matplotlib

4. Machine Learning Algorithms

Learn:

- Regression
- Classification
- Decision Trees
- Random Forest
- KNN

Tools Used:

- Scikit-learn

5. Model Training & Evaluation

Learn accuracy, confusion matrix, cross-validation, and optimization.

6. Introduction to Deep Learning

Understand neural networks, layers, activation functions, and training.

Tools Used:

- TensorFlow
- PyTorch

7. Artificial Neural Networks (ANN)

Build and train basic neural networks for prediction tasks.

8. Convolutional Neural Networks (CNN)

Learn image processing, feature extraction, and object detection.

Tools Used:

- OpenCV
- TensorFlow / PyTorch

9. Recurrent Neural Networks (RNN) & LSTM

Learn sequence modeling for text and time-series data.

10. Natural Language Processing (NLP)

Learn text preprocessing, sentiment analysis, and NLP models.

Tools Used:

- NLTK / SpaCy

11. Model Deployment

Deploy AI models using web apps.

Tools Used:

- Flask / Streamlit

12. Final Capstone Project



Build real-world applications such as:

- Image classification system
- AI chatbot
- Prediction system

- AI chatbot

Career Opportunities

- AI Engineer
- Machine Learning Engineer
- Deep Learning Engineer
- Data Scientist
- Computer Vision Engineer

-  Brochure (PDF design)
-  Course pricing strategy

- Complete project kits (code + dataset)
- Marketing ads (poster + WhatsApp + social media)