



# Adyapan School

## Artificial Intelligence AND Machine Learning



**Duration - 3 months**

**Industry  
Certification**



**Skill India Certified**

**250+  
Partner Companies**

# Master the AI/ML Frontier

Build, deploy, and scale AI solutions; not just learn concepts.

This industry-driven 12-week AI & ML program is designed for learners who want to go beyond theory and create real impact. Through live projects, collaborative learning, and expert mentorship, you will work on practical applications like predictive modeling, computer vision, NLP, and generative AI. By the end of the program, you will have built end-to-end AI solutions and a strong portfolio that showcases your ability to solve real-world challenges.

**12**

WEEKS

**30+**

PROGRAMS OFFERED

**20,000+**

STUDENTS

**250+ PARTNERED COMPANIES**

ABOUT ADYAPAN SCHOOLS

## Where education meets real-world impact

Not just a course — a platform to launch  
your career.

Adyapan Schools was built with a single conviction:  
learning works best when it happens in the real world.  
We partner with top companies, mentors, and industry  
platforms to ensure every student graduates with a  
portfolio of work that speaks louder than a certificate.

Our programs combine rigorous coursework with live  
client projects, giving you the skills and proof-of-work  
that employers actually want.

### MISSION

To equip ambitious learners with  
practitioner-level digital  
marketing skills through mentor-  
led, project-based education that  
bridges the gap between learning  
and earning.



### VISION

To be India's most trusted  
launchpad for the next generation  
of marketing leaders — defined  
not by degrees but by the real  
work.



## Everything you need to grow fast

### PROGRAM HIGHLIGHTS

#### Live Industry Projects

Work on campaigns for real brands alongside your coursework. Build portfolio projects that prove your expertise to employers.

#### 1-on-1 Mentorship

Dedicated mentors from Google, Microsoft, Mastercard and more. Get personalized guidance and industry connections.



#### AI-Powered Marketing

Learn cutting-edge AI tools alongside evergreen fundamentals. Stay ahead of the curve in a rapidly evolving landscape.



#### Dual Certification

Earn both a Course Completion and Internship Certificate – accredited by Skill India Digital Hub and NSDC.



#### Internship Guarantee

Graduate with an Internship completion certificate from a live brand project. Concrete, resume-ready proof of work.



#### Industry Network

Join a network of alumni at Amazon, Google, Adobe, Microsoft. Access exclusive hiring events and referral opportunities.

## 12 weeks. 12 modules. Infinite impact.

### WEEK 1

#### Introduction to the AI + ML Ecosystem

- Machine Learning Deep Dive
- Types of Machine Learning: supervised, unsupervised, self-supervised, reinforcement
- Real-world applications across industries and use-case identification
- The LLM landscape
- The Python ML Toolkit
- Metrics of AI systems: accuracy, latency, cost, and fairness considerations
- Real ML tools for production: MLflow, DVC concepts, and version control
- Intro to Notebooks: structuring experiments, markdown documentation



### WEEK 2

#### Python + Data Handling for AI/ML

- Python essentials for AI and Python Types and Comprehensions
- NumPy for numerical computations, NumPy operations that matter
- Pandas DataFrame operations, Pandas for Tabular Data
- Data Ingestion from Multiple Sources and Visualizing Data with Matplotlib & Seaborn as well as Handling and Resolving Missing Data
- Train/Test Splitting



### WEEK 3

#### Data Visualisation + Exploratory Data Analysis (EDA)

- Statistical Foundations, Univariate, Bivariate, and Multivariate analysis and correlation
- Feature Engineering Intuition, Temporal analysis, Feature correlation analysis from ML
- Multivariate analysis from EDA, Target Distribution Analysis, Custom visualization functions, and interactive visualization
- Time Series Testing and finally the documentation and the presentation



## 12 weeks. 12 modules. Infinite impact.

### WEEK 4

#### Classical ML Algorithms - Supervised Learning

- Introduction to Scikit-learn
- Decision Trees
- Linear Regression for prediction
- Visualisation of Decision Boundaries
- Logistic Regression for classification
- Generalisation and overfit prevention
- Naive Bayes implementations



### WEEK 5

#### Advanced Classical ML – Ensembles & Model Validation

- Supervised Learning Qualities, Unsupervised Learning Algorithms
- Random Forest, Hierarchical Clustering, Cross Validation in full
- Principal Component Analysis (PCA), Quantification of Models
- Anomaly Detection fundamentals, Hyperparameter Tuning
- Model Evaluation frameworks, Regularisation in Model Fitting, Live Model Card Presentation



### WEEK 6

#### Gradient Boosting + Advanced ML Algorithms

- Gradient Boosting Intuition without formulae, Imbalanced data, and Advanced Gradient Boosting
- Threshold Tuning, Stacking, Blending and Ensemble Stacking
- Feature Importance, Filtering for component features, Calibration Techniques for Model Probabilities
- Production Considerations for ML pipelines, Pipeline for component features
- Monotonic Constraints, Advanced assessment



## 12 weeks. 12 modules. Infinite impact.

### WEEK 7

#### Neural Networks – Architecture & Training from Scratch

- Introduction to Neural Networks, Neural Networks Mathematics
- Multi-Layer Perceptrons (MLP), TensorFlow + Keras
- Activation function, Training Dynamics, Loss Functions
- Regularisation in NN, Backpropagation, Monitoring training with callbacks



### WEEK 8

#### Image Intelligence and Text Intelligence

- Introduction to Image Representation in AI, Feature extraction from images, and Training and evaluating Deep Learning models
- Convolutional Neural Networks (CNNs), Popular CNN architectures, and Segmentation Neural Networks models
- Object Detection Concepts, Long Short-Term Memory (LSTM), and Transfer Learning in Practice
- Introduction to NLP, Text Preprocessing Pipelines and Transforming and Encoding Text
- NLP Feature Representation, Topic Modeling, and Text Generation with statistical methods



### WEEK 9

#### Generative AI, GANs & Reinforcement Learning

- Introduction to Transformers and The Foundations of Reinforcement Learning
- Transformer Generative Modelling:
- GAN architecture and the discriminator objective and Implementing a simple DC GAN
- RL environments with Gym and Implementing a simple DC GAN
- Scaling & Performance – the responsibility layer and Responsible AI Development



## 12 weeks. 12 modules. Infinite impact.

### WEEK 10

#### Attention Mechanisms & Transformer Architecture

- Fine-tuning BERT for classification and Parameter Efficient Fine-Tuning (PEFT)
- Prompt Training, Retrieval Augmented Generation (RAG), and Evaluating Language Models
- Scaled Dot-Product Attention and Multi-Head Attention
- Positional Encoding, BERT vs GPT, and Hugging Face Transformers Library



### WEEK 11

#### Advanced Generative AI – VAEs, Diffusion Models & Prompt Engineering

- Autoencoders, Variational Autoencoders (VAEs) and Diffusion Models
- Advanced prompt engineering patterns and Using GPT4s for data generation and analysis
- Using Generative AI techniques to generate content
- Building LLM-powered pipelines and AI-powered data augmentation



### WEEK 12

#### Model Deployment + MLOps + AI-Driven Analytics

- Model Deployment fundamentals and Streamlit for AI Applications
- FastAPI for model serving and No-Code AI Tools
- Docker for ML Applications and Staged Deployment
- MLOps concepts and Monitoring deployed ML models
- AI Autonomous Systems
- AI-based forecasting for business
- Live Launchpad – Capstone Showcase



WHO THIS IS FOR

## This course is perfect for

Students & Career Switchers

Aspiring Data Scientists

MLOps Enthusiasts

AI Researchers and  
Academics

Product Managers in Tech

Software Engineers Re-skilling

### CERTIFICATIONS



### ALUMNI NETWORK

## Our alumni work at world-class companies

Amazon

Adobe

Google

Autodesk

Microsoft

Deloitte

## Your career switch is one click away.

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