



**Course**

**CURRICULUM**

**Brochure**

# About Syntax School

**Syntax School** is an upskilling platform for students or IT Professionals that focuses on performance. Our strategy, which has been approved by the industry, enables our students advance their skills and land their ideal IT jobs.

We have team from leading Universities like **NYU USA, IIT Madras, IIT Guwahati, DTU Delhi** and others who teach, mentor, and support our learners.

The industry-leading increase of 150% with a 9.25X return on investment has been experienced by our learners.

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# Our Courses

Syntax School's AI/ML Course is an industry-recognized program that focuses on:

1. Building the RIGHT skills with Real-life Examples.
2. These courses are planned according to industry need.
3. Hands-on Multiple Real time Projects.
4. Live Classes and Certification.
5. 24\*7 Doubt Solving Support
6. Course Revised in every Six Months with up-to-date tools & Technology.
7. It will provide Internship and Placement Assistance.

Within our program, you will learn from live classes hosted by instructors who are qualified from top most institutes.

# Why upskill with us?

Improve Your Career with These Important Aspects of Syntax School's Upskilling Training

- ❖ Structured, Industry-vetted curriculum
- ❖ Live Classes with Industry Experts
- ❖ Personalized Learning
- ❖ 1 to1 Mentorship
- ❖ 500+ Our Learner and Alumni Network
- ❖ Industry Relevant Projects
- ❖ 35+ Employers Partners
- ❖ Internship / Placement Assistance
- ❖ Training Certificate

# I. AI/ML

- Only Basic Knowledge of Python is required for this course.
- This Course contain 3 to 4 Projects.
- It will Provide Internship or Training Certificate.
- It contains Internship and Placement Assistance.
- Time required for this Course is 50-60 Hours.



**AI/ML Engineering**

Master artificial intelligence and machine learning algorithms

~~₹10,999/-~~ **₹4,699/-** ⌚ 10 Weeks

- ✓ Maths
- ✓ Data Analysis
- ✓ Machine Learning
- ✓ Projects
- ✓ Certification

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***DISCOUNT AVAILABLE ONLY TILL 6 JUNE 2025***

# Curriculum

## Module 1: Mathematical Foundations for ML

- Linear Algebra: vectors, matrices, dot products
- Statistics: mean, variance, distributions, correlation
- Probability: Bayes Theorem, conditional probability
- Dimensionality Reduction: PCA.

## Module 2: Introduction to Machine Learning

- What is AI, ML, and Data Science?
- Categories: Supervised, Unsupervised, Reinforcement Learning
- Real-world engineering applications of ML
- ML lifecycle: data collection to deployment
- ML vs Traditional Programming
- Install Python, Jupyter Notebook, scikit-learn; first ML model with scikit-learn

## Module 3: Python for Machine Learning

- Basics of Python
- libraries for ML: NumPy, pandas, matplotlib, seaborn

## Module 4: Supervised Learning – Regression

- Simple and Multiple Linear Regression
- Polynomial Regression
- Model evaluation: MAE, MSE, RMSE,  $R^2$
- Regularization: Ridge and Lasso
- Mini-Project 1

## Module 5: Supervised Learning – Classification

- Logistic Regression
- Decision Trees

- Random Forest, Gradient Boosting
- Support Vector Machine (SVM)
- Evaluation: Confusion Matrix, Precision, Recall, F1, ROC
- Mini-Project-2

## **Module 6: Unsupervised Learning**

- Clustering: K-Means
- Hierarchical
- Anomaly Detection techniques
- Mini-Project-3

## **Module 7: Model Selection and Tuning**

- Bias-Variance tradeoff
- Underfitting vs Overfitting
- Cross-validation: k-Fold, Stratified K-Fold
- Hyperparameter tuning

## **Module 8: Activation Functions and Basics of Deep Learning**

- Activation functions: Sigmoid, ReLU, SoftMax
- Biological neurons vs artificial neurons
- Structure: Perceptron, Multi-Layer Perceptron (MLP)
- Forward and Backpropagation
- Building neural networks

## **Module 9: Final Project**

- It will be the Capstone Project.

## Features of this Course:

Hyper-personalization: Depending on student-specific learning pace, multiple revision classes are organized. Assignments (post-lecture) & their immediate evaluation help to compare your performance against peers. The focus is not just to remember math's formulas but to help learners visualize the intuition behind concepts, enabling them to identify patterns. As you work on different business situations & product thinking, you gain a deeper understanding of what insights are important & what insights are not important for a particular scenario.

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