



NEYLORA DATA & AI ACADEMY

Practical Skills • Real Projects • Career-Focused Learning

PROFESSIONAL CERTIFICATE PROGRAM

DATA SCIENCE & MACHINE LEARNING

LIVE WEEKEND ONLINE PROGRAM

From Python Fundamentals to End-to-End Machine Learning Projects

PROGRAM HIGHLIGHTS

Duration	12 Weeks
Mode	Live Online
Schedule	Saturday & Sunday
Session Duration	2 Hours/Day
Total Training	48 Live Hours
Level	Beginner to Intermediate
Batch Size	10–15 Participants
Projects	3 Mini Projects + 1 Capstone
Certificate	Certificate of Completion

WHY LEARN DATA SCIENCE & MACHINE LEARNING?

Data is at the heart of modern businesses. Organizations increasingly need professionals who can transform raw data into insights, build predictive models and support data-driven decisions.

This program is designed to take learners from **Python and data analysis fundamentals to practical Machine Learning**, with a strong emphasis on hands-on learning.

You will not just learn algorithms—you will learn how to approach a real-world Data Science problem from **business problem definition to model evaluation and presentation**.

WHO CAN JOIN?

This program is suitable for:

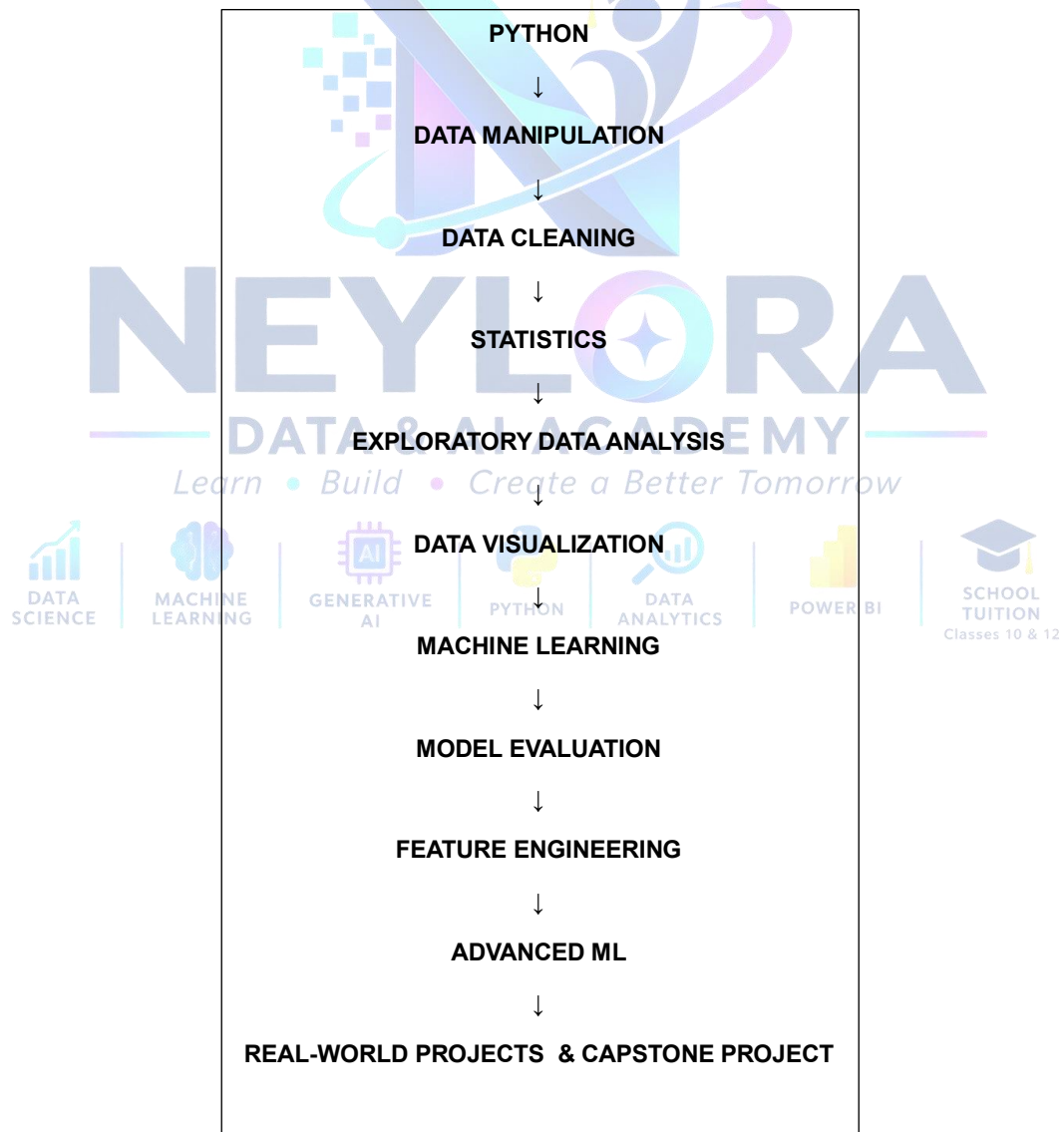
- College students and final-year students
- Fresh graduates
- Working professionals
- Software professionals moving into Data Science
- Professionals planning a career transition into AI/ML
- Entrepreneurs and business professionals interested in analytics

Prerequisites

Basic computer knowledge is sufficient.

Basic mathematics and logical reasoning will be helpful.

PROGRAM LEARNING JOURNEY



DETAILED SYLLABUS

MODULE 1 — PYTHON FOR DATA SCIENCE

Topics

- Introduction to Python
- Variables and data types
- Operators
- Conditional statements
- Loops
- Lists, tuples, sets and dictionaries
- Functions
- Lambda functions
- List comprehensions
- Basic error handling
- Introduction to NumPy

Hands-on

Python programming exercises using real-world scenarios.

MODULE 2 — NUMPY & PANDAS

NumPy

- Arrays
- Array creation
- Indexing and slicing
- Array operations
- Aggregation
- Statistical operations

Pandas

- Series and DataFrames
- Importing CSV/Excel data
- Data selection and filtering
- Sorting
- Aggregation
- GroupBy



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Learn • Build • Create a Better Tomorrow

DATA
SCIENCE

MACHINE
LEARNING

GENERATIVE
AI

PYTHON

DATA
ANALYTICS

POWER BI

SCHOOL
TUITION
Classes 10 & 12

- Merging and joining
- Data transformation

Hands-on

Manipulate and analyze a real-world business dataset.

MODULE 3 — DATA CLEANING & PREPROCESSING

- Understanding data quality
- Data types
- Missing-value analysis
- Handling missing values
- Duplicate records
- Data inconsistencies
- Outlier identification
- Data transformation
- Categorical data
- Encoding
- Preparing data for Machine Learning

Hands-on

Clean and prepare a raw business dataset for analysis.

MODULE 4 — STATISTICS FOR DATA SCIENCE

- Descriptive statistics
- Mean, median and mode
- Range
- Variance
- Standard deviation
- Percentiles and quartiles
- Probability fundamentals
- Probability distributions
- Sampling
- Confidence intervals
- Hypothesis testing
- Correlation



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- Covariance

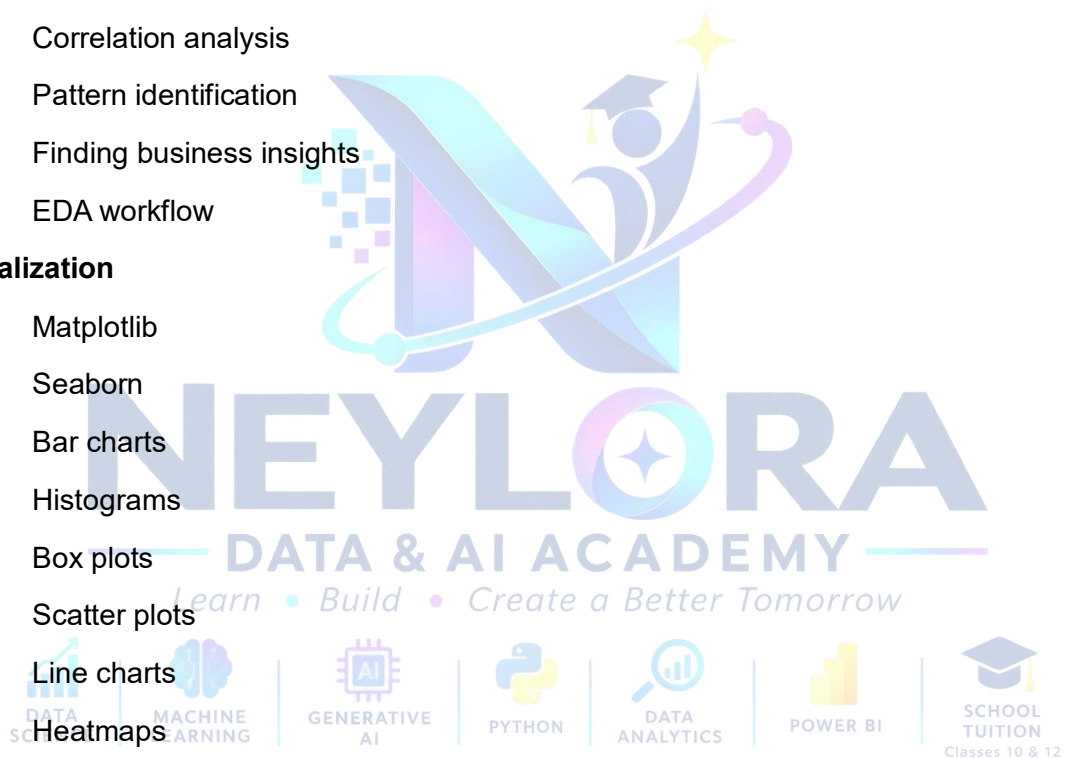
Focus: Understanding statistics through practical Data Science examples.

MODULE 5 — EXPLORATORY DATA ANALYSIS

- What is EDA?
- Univariate analysis
- Bivariate analysis
- Multivariate analysis
- Distribution analysis
- Outlier analysis
- Correlation analysis
- Pattern identification
- Finding business insights
- EDA workflow

Visualization

- Matplotlib
- Seaborn
- Bar charts
- Histograms
- Box plots
- Scatter plots
- Line charts
- Heatmaps



Hands-on: Complete EDA on a real-world dataset.

MODULE 6 — INTRODUCTION TO MACHINE LEARNING

- AI vs ML vs Deep Learning
- What is Machine Learning?
- Applications of ML
- Types of Machine Learning
- Supervised Learning
- Unsupervised Learning
- ML workflow

- Features and target variables
- Training and testing data
- Data preprocessing
- Model training
- Prediction
- Model evaluation

MODULE 7 — REGRESSION

- Introduction to Regression
- Linear Regression
- Multiple Linear Regression
- Regression workflow
- Training a regression model
- Making predictions
- Model interpretation

Evaluation Metrics

- MAE
- MSE
- RMSE
- R^2

Project

Sales / House Price Prediction



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MODULE 8 — CLASSIFICATION

- Introduction to Classification
- Logistic Regression
- K-Nearest Neighbors
- Decision Trees
- Random Forest
- Classification workflow

Evaluation

- Confusion Matrix
- Accuracy

- Precision
- Recall
- F1 Score
- ROC-AUC

Project

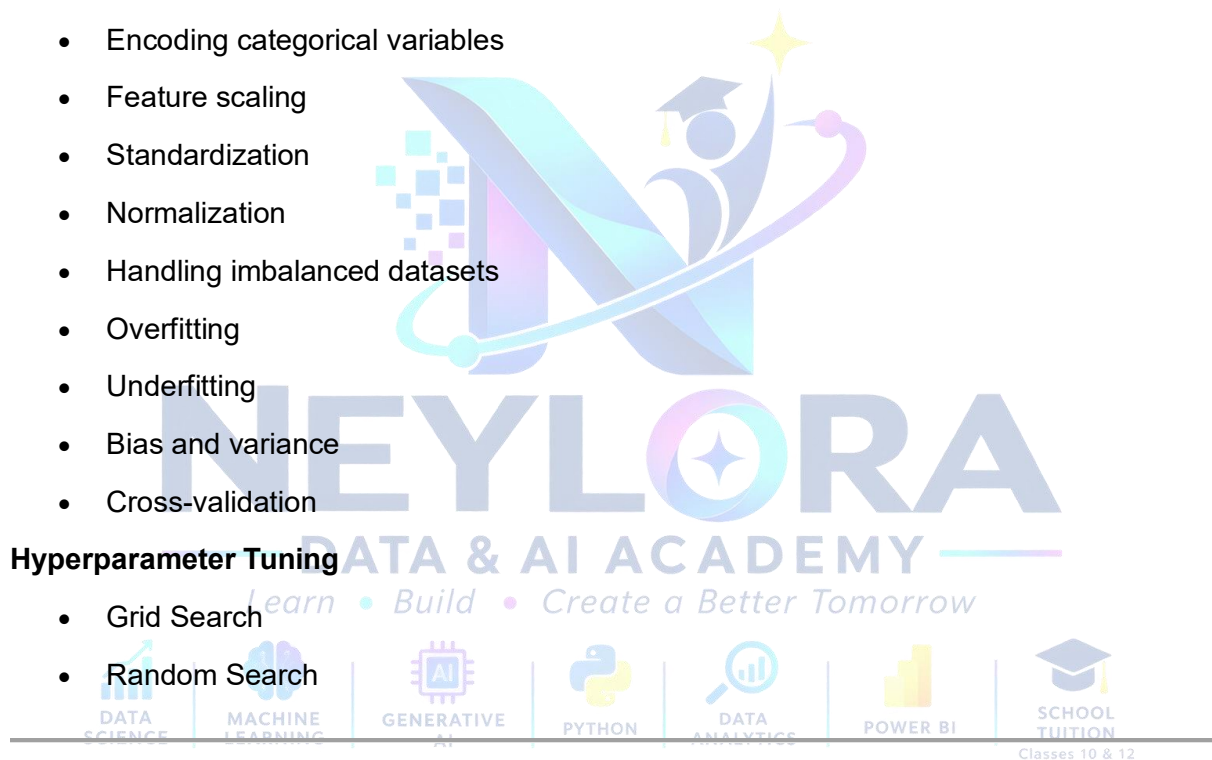
Customer Churn Prediction

MODULE 9 — FEATURE ENGINEERING & MODEL IMPROVEMENT

- Feature selection
- Feature creation
- Encoding categorical variables
- Feature scaling
- Standardization
- Normalization
- Handling imbalanced datasets
- Overfitting
- Underfitting
- Bias and variance
- Cross-validation

Hyperparameter Tuning

- Grid Search
- Random Search



MODULE 10 — UNSUPERVISED LEARNING

Clustering

- Introduction to clustering
- K-Means
- Choosing K
- Cluster interpretation
- Cluster evaluation

Dimensionality Reduction

- Introduction to PCA
- PCA workflow

- Applications of PCA

Project

Customer Segmentation

MODULE 11 — END-TO-END MACHINE LEARNING PROJECT

Participants will learn how to approach a complete Machine Learning problem.

Workflow

Business Problem



Data Understanding



Data Cleaning



Exploratory Data Analysis



Feature Engineering



Model Selection



Model Training



Model Evaluation



Model Comparison



Business Interpretation



Final Presentation

MODULE 12 — CAPSTONE PROJECT

Participants will work on a complete real-world business problem.

Capstone Stages

1. Problem definition

2. Dataset understanding
3. Data quality assessment
4. Data cleaning
5. Exploratory Data Analysis
6. Feature engineering
7. Model development
8. Model evaluation
9. Business insights
10. Final presentation

Participants will receive guidance throughout the project.

PROJECTS

MINI PROJECT 1

Sales / Price Prediction

Build a regression model to predict a continuous business outcome.

MINI PROJECT 2

Customer Churn Prediction

Build a classification model to identify customers likely to churn.

MINI PROJECT 3

Customer Segmentation

Use clustering to identify meaningful customer groups.

FINAL CAPSTONE

An end-to-end Machine Learning project based on a real-world business problem.

TOOLS & TECHNOLOGIES

Python

NumPy

Pandas

Matplotlib

Seaborn

Scikit-learn

Jupyter Notebook

Google Colab

GitHub

TRAINING METHODOLOGY

We follow a practical **Learn** → **Practice** → **Apply** → **Build** approach.

30% CONCEPTS

Understand the fundamentals and underlying concepts.

50% HANDS-ON

Live coding, exercises and real datasets.

20% PROJECTS

Apply the learning to business problems and portfolio projects.

Every major module includes:

- Live demonstration
- Guided hands-on exercise
- Practice dataset
- Assignment
- Discussion and doubt clarification

WEEKEND LEARNING FORMAT

SATURDAY

Concepts + Demonstration + Live Coding

SUNDAY

Hands-on Practice + Assignment + Doubt Clearing

This format is designed specifically for:

PYTHON

DATA
ANALYTICS

POWER BI

SCHOOL
TUITION
Classes 10 & 12

Working Professionals | College Students | Career Transition Learners

PROGRAM OUTCOMES

After completing the program, participants will be able to:

- ☐ Program using Python for Data Science
- ☐ Work with real-world datasets
- ☐ Clean and preprocess data
- ☐ Perform Exploratory Data Analysis
- ☐ Create meaningful visualizations
- ☐ Apply statistical techniques
- ☐ Build regression models
- ☐ Build classification models
- ☐ Apply clustering techniques

- ☐ Perform feature engineering
- ☐ Evaluate Machine Learning models
- ☐ Tune model performance
- ☐ Interpret ML results
- ☐ Develop an end-to-end ML project
- ☐ Present data-driven business insights
- ☐ Build a portfolio of practical projects

LEARNING RESOURCES

Participants receive:

- ☐ Class presentation materials
- ☐ Python notebooks
- ☐ Practice datasets
- ☐ Hands-on exercises
- ☐ Assignments
- ☐ Project guidelines
- ☐ Capstone guidance
- ☐ Class recordings
- ☐ GitHub project guidance

CERTIFICATION

Participants who successfully meet the program completion requirements will receive:

CERTIFICATE OF COMPLETION

The certificate will include:

- Participant name
- Program name
- Training duration
- Completion date
- Certificate ID
- Academy name
- Authorized trainer signature

Each certificate will have a **unique certificate identification number** for internal verification.

Note: This is a professional training Certificate of Completion issued by NEXORA Data & AI Academy.

PROGRAM FEE

FOUNDING BATCH SPECIAL FEE



₹7,000

12 Weeks | 48 Live Hours

Limited to 15 Participants

The ₹7,000 fee is offered as a **Founding Batch introductory fee.**

WHAT YOUR ₹7,000 INCLUDES

- ☐ 48 Hours Live Online Training
- ☐ Weekend Classes
- ☐ Class Recordings
- ☐ Practice Datasets
- ☐ Python Notebooks
- ☐ Assignments
- ☐ 3 Mini Projects
- ☐ 1 Capstone Project
- ☐ Doubt-Clearing Support
- ☐ GitHub Portfolio Guidance
- ☐ Certificate of Completion

ONLINE LEARNING PLATFORM

LIVE CLASSES

Zoom / Google Meet

CLASS MATERIAL

Google Classroom / Google Drive

CODING

Google Colab / Jupyter Notebook

PROJECT PORTFOLIO

GitHub

STUDENT COMMUNITY

WhatsApp Community

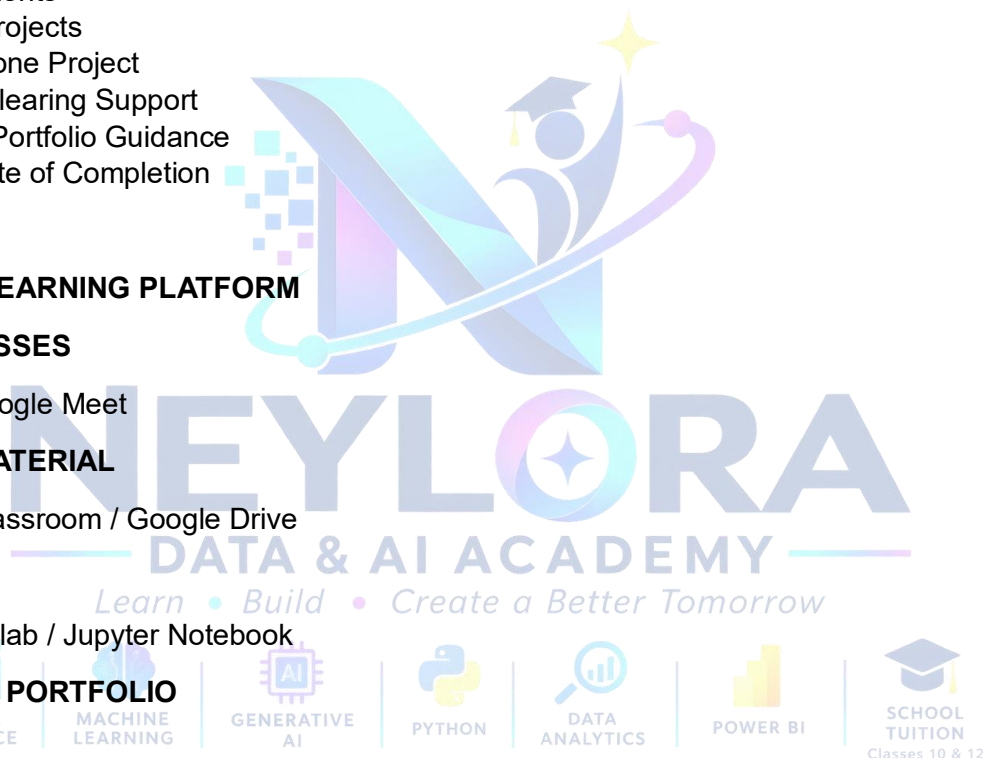
BATCH SIZE

ONLY 10–15 PARTICIPANTS

Small batches enable:

More Interaction → More Practice → Better Doubt Support → Better Project Guidance

ENROLLMENT PROCESS



STEP 1

Register your interest.

STEP 2

Receive program and payment details.

STEP 3

Complete enrollment.

STEP 4

Receive joining instructions and learning resources.

STEP 5

Attend the live weekend sessions.

STEP 6

Complete assignments and projects.

STEP 7

Complete the capstone and receive your Certificate of Completion.

CONTACT

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ENROLL NOW

FOUNDING BATCH — ₹7,000

Limited Seats | Weekend Live Online Training

