

Machine Learning Curriculum

Module 1 - Foundations (Sessions 1-10)

This module revisits essential data science concepts and introduces the fundamentals of Machine Learning.

Session No.	Topic
1	Revision on Pandas
2	Revision on Seaborn & Plots
3	Revision on Statistics
4	Revision on Probability
5	Problem Solving - Session 1
6	Assessment - 1
7	Introduction to Machine Learning
8	Supervised Learning - Linear Regression
9	Supervised Learning - Logistic Regression
10	Project Building - Session 1

Module 2 - Core Supervised Learning (Sessions 11-20)

This module delves into key supervised learning algorithms and introduces unsupervised learning techniques.

Session No.	Topic
11	Mini Project - 1
12	Supervised Learning - Decision Trees

Session No.	Topic
13	Supervised Learning - Random Forest
14	Supervised Learning - Model Evaluation
15	Supervised Learning - KNN
16	Project Building - Session 2
17	Mini Project - 2
18	Unsupervised Learning - PCA
19	Unsupervised Learning - Clustering
20	Assessment - 2

Module 3 - Advanced ML Algorithms (Sessions 21-30)

This module covers more advanced Machine Learning algorithms, including Support Vector Machines and XGBoost.

Session No.	Topic
21	Project Building - Session 3
22	SVM Classification
23	SVM Regression
24	Problem Solving - Session 2
25	Mini Project - 3
26	XGBoost Regressor
27	XGBoost Classifier
28	Overfitted ML Model
29	Underfitted ML Model
30	Assessment - 3

Module 4 - Regularization & Optimization (Sessions 31-36)

This module focuses on techniques to improve model performance and generalization.

Session No.	Topic
31	Major Project (Start)
32	Enhancing Major Project
33	Hyperparameter Tuning - SVM
34	LASSO Regression
35	Ridge Regression
36	ML Model Parameters

Module 5 - Final Projects & Deployment (Sessions 37-45)

The final module is dedicated to advanced topics, project development, and the completion of the final project.

Session No.	Topic
37	Project Building - Session 4
38	Mini Project - 4
39	Recommendation Systems
40	TF-IDF Vectorizer
41	Ensemble Models
42	Project Building - Session 5
43	Project Building - Session 6
44	Project Building - Session 7
45	Final Project (Complete + Review)