

Week1	Basics of Python Prog.	Week8	Advanced Pandas Part 2
	✓ Python Basics ✓ Python Operators + if-else+loops ✓ Python Strings ✓ Session on Time Complexity - 1 hr		Multiindex Series and DataFrames Vectorised String Operations Datetime in Pandas time Series analysis working with textual data
Week2	Python Data Types	Week9	Data Visualisation
	✓ Python Data Types [List] - 2 hr ✓ Tuples + Set + Dictionary ✓ Python Functions 2 hr+		✓ Plotting Using Matplotlib ✓ Advanced Matplotlib Session on Plotly(Express) Plotly Graph Objects(go) Plotly Dash Covid-19 dashboard using Plotly and Dash Dash app on Heroku Project using Plotly
Week3	Object Oriented Prog.	Week10	Data Visualisation Part-2
	✓ OOP Part-1 - 2 hr+ ✓ OOP Part-2 - 2 hr. ✓ OOP Part-3 - 2 hr ✓ Abstraction - 15 min		Plotting Using Seaborn-Part1 Plotting Using Seaborn-Part2 Open-Source Software Part1 Open-Source Software Part2
Week4	Advanced Python	Week11	Data Analysis Process
	✓ File Handling + Serialisation & Deserialisation ✓ 2 hr+ ✓ Exception Handling , ^{decorators} Moduel & 1.35 min ✓ Decoders and Namespaces - 1.45 min ✓ Iterators - 38 min ✓ Generators - 28 min ✓ GUI Development using Python - 2.49 hr Library.		Data Gathering Data Analysis Data Assessing and Cleaning ETL using AWS RDS Advanced Web Scraping using Selenium
Week5	Numpy	Week12	Data Analysis Process Part2
	✓ Numpy Fundamental - 2 hr ✓ Advanced Numpy - 1.99 hr ✓ Numpy Tricks - 1.3 hr ✓ Web Development using Flask - 2.3 hr		Data Cleaning Case Study-smartphone Exploratory Data Analysis(EDA) Data Cleaning Part 2 Session on EDA case study-phone data
Week6	Pandas	Week13	SQL Basics
	✓ Pandas Series - 2 hr+ ✓ Pandas DataFrame - 2.12 hr ✓ Important DataFrame Methods - 2.12 hr API Development using Flask		Database Fundamental SQL DDL Commands Tableau-Olympic Dataset(Part-1)
Week7	Advanced Pandas	Week14	SQL Part1
	GroupBy Object Merging, Joining, Concatenating Streamlit Pandas Case Study(Indian Startup Funding) Git Git & GitHub		SQL DML Commands SQL Grouping and Sorting Tableau-Part2

Week15	SQL Part2	Week23	Linear Regression
	<i>SQL Joins</i>		<i>✓Introduction to Machine Learning</i>
	<i>SQL Case study-Zomato Dataset</i>		<i>✓Simple Linear Regression</i>
	<i>Subqueries in SQL</i>		<i>✓Multiple Linear Regression</i>
	<i>Making a Flight Dashboard using py & sql</i>		<i>✓Optimization the BigPicture</i>
	<i>SQL interview Question</i>		<i>Differential Calculus</i>
Week16	Advance SQL	Week24	Gradient descent
	<i>Window Function in SQL</i>		<i>✓Gradient descent from scratch</i>
	<i>Window Function Part2</i>		<i>✓Batch Gradient Descent</i>
	<i>Window Function Part3</i>		<i>✓Stochastic Gradient Descent</i>
	<i>Data Cleaning using SQL/Laptop dataset</i>		<i>Mini-batch Gradient Descent</i>
	<i>EDA using SQL/Laptop Dataset</i>		
Week17	Descriptive Statistics Part1	Week25	Regression Analysis
	<i>Descriptive Statistics Part1</i>		<i>Regression Analysis(Part1)</i>
	<i>Datetime in SQL</i>		<i>Regression Analysis(Part2)</i>
Week18	Descriptive Statistics Part2		<i>Polynomial Regression</i>
	<i>Descriptive Statistics Part2</i>		<i>Assumption of Linear Regression</i>
	<i>Probability Dist. Function(PDF,CDF,PMF)</i>		<i>Multicollinearity</i>
	<i>SQL Datetime Case Study on Flight Dataset</i>	Week26	Feature Selection
	<i>Database design/SQL Datatypes/Normalisation</i>		<i>Feature Selection Part1</i>
Week19	Probability Distribution		<i>Feature Selection Part2</i>
	<i>Normal Distribution</i>		<i>Feature Selection Part3</i>
	<i>Non-Gaussian Probability Distribution</i>	Week27	Regularisation
	<i>View and User Defined Function in SQL</i>		<i>Regularisation -1 bias-varian tradeoff</i>
	<i>Transaction and Stored Procedure</i>		<i>Regularisation-1 What is Regularisation</i>
Week20	Inferential Statistics		<i>Ridge Regression Part1</i>
	<i>Central Limit Theorem</i>		<i>Ridge Regression Part2</i>
	<i>Central Limit Theorem proof</i>		<i>Ridge Regression Part3</i>
	<i>Confidence Interval</i>		<i>Ridge Regression Part4</i>
Week21	Hypothesis Testing		<i>Lasso Regression</i>
	<i>Hypothesis Testing Part1</i>		<i>Why Lasso Regression creates sparsity</i>
	<i>Hypothesis Testing Part2 p-value and t-test</i>		<i>Elastic Net Regression</i>
	<i>Chi-square test</i>		<i>doubt session</i>
	<i>ANOVA</i>	Week28	K nearest Neighbors
Week22	Linear Algebra		<i>K nearest Neighbors Part1</i>
	<i>Tensors Linear Algebra part1(a)</i>		<i>coding K Nearest Neighbors from Scratch</i>
	<i>Vectors Linear Algebra part1(b)</i>		<i>draw decision boundary for classific. Prob</i>
	<i>Matrices(computation)</i>		<i>Advanced KNN part2</i>
	<i>Matrices(intuition)</i>		<i>Metrics Part1</i>
			<i>Metrics Part2</i>

Week29	PCA	Week34	Decision Tree
	<i>Curse of Dimensionality</i>		<i>Decision Tree Part1</i>
	<i>PCA part1</i>		<i>Decision Tree Part2</i>
	<i>PCA part2</i>		<i>Decision Tree Part3</i>
	<i>PCA part3</i>		<i>Decision Tree Visualisation</i>
	<i>Eigen vectors and Eigen Value</i>		
	<i>Eigen Decomposition and PCA variants</i>		
	<i>Eigen Singular Value Decomposition</i>		
Week30	Model Evaluation and Selection	Week35	Ensemble Methods Intro.
	<i>ROC Curve in ML</i>		<i>Introduction to Ensemble Learning</i>
	<i>Cross Validation</i>		<i>Bagging Part-1 Introduction</i>
	<i>Data Leakage</i>		<i>Bagging Part-2 Classifier</i>
	<i>Hyperparameter Tuning</i>		<i>Bagging Part-3 Regressor</i>
Week31	Naïve Bayes		<i>Random Forest Part-1</i>
	<i>Probability Part1</i>		<i>Random Forest Part-2</i>
	<i>Probability Part2</i>		
	<i>Naïve Bayes Part1</i>		
	<i>Naïve Bayes Part 2</i>		
	<i>Naïve Bayes Part3</i>		
	<i>Project Email Spam Classifier</i>	Week36	Gradient Boosting
Week32	Logistic Regression		<i>Gradient Boosting Part1</i>
	<i>Logistic Regression</i>		<i>Gradient Boosting Part2</i>
	<i>Multiclass Classification using Logistic Regression</i>		<i>Gradient Boosting Part3 Classification1</i>
	<i>Maximum Likelihood Estimation</i>		<i>Gradient Boosting Classification2 Geo</i>
	<i>Logistic Regression</i>		<i>Gradient Boosting Classification3 math</i>
	<i>Logistic Regression Hyperparameters</i>	Week37	Extreme Gradient Boosting
Week33	Support Vector Machine		<i>Intro to XGBoost</i>
	<i>SVM Part1 Hard Margin SVM</i>		<i>XGBoost for Regression</i>
	<i>SVM Part2 Soft Margin SVM</i>		<i>XGBoost for Classification</i>
	<i>Constrained Optimisation prob</i>		<i>Math of XGBoost</i>
	<i>SVM Dual Prob</i>	Week38	K Means Clustering
	<i>Maths Behind SVM Kernels</i>		<i>Kmeans Clustering-1</i>
	Extra Lect		<i>Kmeans Clustering-2</i>
	<i>Handling Missing Value Part1</i>		<i>Kmeans Clustering-3</i>
	<i>Handling Missing Data</i>		<i>Kmeans algo in python</i>
	<i>Handling Missing Data2</i>	Week39	Other Clustering Algo.
			<i>DBSCAN</i>
			<i>Hierarchical Clustering</i>

Week 40 Projects

- Data Gathering*
- Data Cleaning*
- Feature Engineering*
- EDA*
- Outlier Detection and Removal*
- Missing Value imputation*
- Feature Selection*
- Model Selection & Productionalization*
- Building the Analytics Module*
- Building the Recommender System 1*
- Building the Recommender System 2*

Imp. session

- Week 1-
- 1) How to build a portfolio website for DS.
 - 2) Week 1 Interview Ques.

Week 2

- 1) Career OnA Live Session for paid Member.
- 2) Session on Array Interview Ques.
- 3) Week 2 Interview Ques.

Week 3

- 1) session on OOP project
- 2) Week 3 Interview Ques.

Week 4

- 1) Recursion using Python
- 2) Resume building
- 3) Interview Ques.