

# Data Science

## Python For Data Science

- Introduction to Python
- Setup vs - Code & Jupiter
- Variables
- Data Types in Python
- Numbers
- Strings
- User Input
- Data structure in Python
- List, Tuple & Dictionary
- Condition Statements
- Looping Statements
- Methods
- Modules
- PIP
- `if __name__ == "__main__"`
- Reading/Writing Files

## Data Manipulation using Pandas Module

- Introduction
- DataFrame
- Different ways of creating DataFrame
- Read/Write (Excel/CSV) files
- Handle Missing Data
- Group By
- Concat DataFrame
- Pivot Table
- Reshape DataFrame

## Mathematical Computing with Numpy

- Introduction
- Basic Array Operation
- Slicing & Stacking Array
- Indexing Array
- Iteration in Numpy Array
- Nditer

## Advance Data Visualisation using Seaborn

- Introduction
- Bar Plot
- Dist Plots
- Box Plots
- More...

## 2 - Major Projects 3 - Kaggle EDA Projects

## Data Visualization Using Matplotlib

- Introduction
- Format String in Plot
- Axes, Labels, Legend, Grid
- Bar Chart
- Histogram
- Piechart
- Same Chart to on File

## Statistics For Data Science

- Introduction
- Gathering Data
- Describing Data
- Making Conclusion
- Prediction & Explanation
- Population Sample Task
- Parameter & Statistics
- Study Types
- Sample Types
- Data Types
- Measurements Levels
- Descriptive statistics
- Predictive Statistics
- Inferential Statistics

## Machine Learning

- Introduction
- Linear Regression Multiple Variable
- Gradient Descent & Cost Function
- Same Model to File
- Dummy Variables & One Hot Encoding
- Train Testing Split
- Logistic Regression
- Logistic Regression Multiclass Classification
- Decision Tree
- Support Vector Machine
- Random Forest
- K Fold Cross Validation
- K-Means Clustering
- Naive Bayes
- KNN
- PCA
- 2 Test
- 2- Major Project

## Deep Learning

- Introduction
- Neuron
- Neural Network
- Tensorflow
- Keras
- Digits Clarification
- Activation Function
- Derivatives
- Matrix Basic
- Loss & WST
- Gradient Descent in Neural Network
- Chain Rule
- ANN
- Convolutional Neural Network CNN
- YOLO Algorithm
- RNN( Recurrent Neural Network)
- 2- Test
- 1- Project

## SQL For Data Science

- Connecting to SQL Server
- Creating Altering & Dropping a Database
- Creating & Working With Table
- Adding a Default Constraint
- Cascading Referential
- Adding a Check Constraint
- Identify Column in SQL
- Flow to get the Cart
- Generated Identify Column in SQL
- Unique Key Constraint
- Select Statement
- Group By
- Joins
- Self Join
- Way to Replace Null
- Working with Date/Time
- 2- Test
- 1- Project

## Advance Excel for Data Science

- Tables in Excel
- Range
- Cleaning Data with text Function
- Cleaning Data Containing Date
- Value
- Working with Time
- Condition Formatting
- Sorting
- Filtering
- Quick Analysis
- Lookup Functions
- Pivot Table
- Data Visualization
- Data Validation
- 2 - Major Projects

## POWER BI

- Module 1 : Introduction To Power BI
- Module 2 : Essential Theoretical Concepts
- Module 3 : Data Preparation
- Module 4 : Data Modelling
- Module 5 : Dax
- Module 6 : Data Visualization
- Module 7 : Power BI Service
- Module 8 : Project & Case Studies