Data Science & Analytics

CODING

- Basics of Coding:
- What are variables
- What are operators
- Data types in Python
- Print command
- I f-else, loops introduction and small programs

Intermediate coding

- Conditional statements (if-else, elif)
- Nested conditions
- For loop
- While loop
- Break

Introduction to Functions

- Using prebuilt functions (min,max etc.)
- Writing user defined functions
- What is lambda function?
- Map, reduce & Filter functions in Python

Introduction to libraries

- INumPy
- Pandas
- Matplotlib
- Plotly

DATA ANALYSIS

- Data Analysis (Excel & Python)
- Measures of central tendency (Mean, Median & Mode)

- Measures of dispersion (Quartiles, Percentiles, Standard Deviation, Variance) Skewness & Kurtosis

Univariate Data Analysis

- Summary statistics, distribution
- Data transformation (z-score,
- normalisation)
- Skewness & Kurtosis

Bivariate Data Analysis

- How to treat missing values
- How to treat outliers
- Feature to feature relationship
- Correlation
- Seasonality and trends

Algorithms

- Clustering
- Linear Regression
- Multiple Regression
- Logistic Regression

DATA VISUALIZATION

- Visuals
- Types of charts
- Using Matplotlib
- Using Seaborn
- Using Plotly

DATA PREPROCESSING AND DATA WRANGLING

- Pandas
- NumPy

MACHINE LEARNING ALGORITHMS

- Algorithms
- SVM
- Decision tree
- KNN
- K – means

MODEL EVALUATION

- Feature Engineering
- Model Selection

Model Evaluation Metrics

- Accuracy
- RMSE
- ROC
- AUC
- Confusion Matrix
- Precision
- ecall
- F1 Score
- Overfitting
- Bias-Variance trade-off
- Cross Validation

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