

Data Analytics & Generative AI

- Introduction to Python
- Python fundamentals
- Python Core, Strings, Packages, Operators, Loops, Functions, Lists
- String Objects and Collection
- Tuples, Set, Dictionaries & Functions
 - Functions basics, Iterators, Lambda Functions
 - Sets, Operators
- Data Manipulation: Cleansing - Munging
 - Cleansing Data with Python
 - Filling missing values using lambda function and concept of Skewness.
 - Data Manipulation
- Python Pandas
- NumPy, SciPy
- File Operations
- Scikit-learn
- Seaborn
- Matplotlib
- Data Analysis Visualization using Tableau
 - Descriptive statistics
 - Frequency Tables and summarization
 - Univariate Analysis (Distribution of data & Graphical Analysis)
 - Bivariate Analysis (Cross Tabs, Distributions & Relationships, Graphical Analysis)
 - Creating Graphs- Bar/pie/line chart/histogram/ boxplot/ scatter/ density etc)
 - Important Packages for Exploratory Analysis (NumPy Arrays, Matplotlib, seaborn, Pandas and SciPy. stats etc)
- Statistics and Mathematics in AI
 - Statistical Data Types
 - Measure of Central tendency, Dispersion and Association
 - Estimation and Hypothesis Testing
 - Distributions
 - Sampling techniques
- Machine learning
 - Supervised Machine Learning techniques – what is it?
 - How to build a model
 - EDA
 - Train, Test & Validation splits
 - Predictions
 - Over Fitting & Under Fitting
 - Intro to Scikit learn
- Linear Regression
- Logistic Regression
- Unsupervised/Clustering
 - K-means
 - Case Study on the Teen marketing segmentation and targeting the customers

- Decision Tree
- Random Forest
- Generative AI
 - Introduction to Generative AI:
 - Definition and applications of generative models
 - Difference between discriminative and generative models
 - Examples of generative AI in various domains
- Chat GPT
 - Introduction
 - Create content
 - Synthesize information
 - Productivity: Achieve your goals faster with Chat GPT, manage your time, and prioritize tasks
 - Soft Skills
 - Marketing: Generate targeted content with Chat GPT, capitalize on trends