
DATA SCIENCE

1. Introduction To Data Science

- What is Data Science?
- Role Of A Data Scientist
- Applications Of data Science (Business, Healthcare, Finance, etc.)
- Overview Of The Data Science Lifecycle



2. Programming For Data Science

- Python (preferred) or R
- Variables, Data Types, Operators
- Conditional Statements, Loops
- Functions & Modules
- Object-Oriented Programming Basics
- File Handling

3. Mathematics & Statistics

- Linear Algebra (Vectors, Matrices, Eigenvalues, Eigenvectors)
- Calculus (Derivatives, Gradient, Partial Derivatives-for ML)
- Probability (Bayes Theorem, Conditional Probability, Random variables)
- Descriptive Statistics (Mean, Median, Mode, Variance, Std Dev)
- Inferential Statistics (Hypothesis Testing, p-value, Confidence Intervals)
- Probability Distributions (Normal, Binomial, Poisson)
- Correlation & Covariance

4. Data Handling & Analysis

- NumPy, Pandas (Python)
- DataFrames, Series
- Data Cleaning (Handling Missing Values, Duplicates)
- Data Transformation & Feature Engineering
- GroupBy, Merging, Joins

5. Data Visualization

- Matplotlib, seaborn, Plotly
- Histograms, Bar Plots, Line Plots
- Heatmaps, Pairplots, Scatter Plots
- Interactive dashboards (Plotly / Power BI / Tableau)

6. Databases & SQL

- SQL Basics: SELECT, INSERT, UPDATE, DELETE
- Joins, Group By, Aggregate Functions
- Subqueries & Window Functions
- Connecting Python To SQL Databases

7. Machine Learning (ML)

- Regression (Linear, Multiple, Logistic)
- Classification (KNN, Decision Trees, Random Forest, SVM)
- Clustering (K-Means, Hierarchical)
- Dimensionality Reduction (PCA)
- Train / Test Split, Cross-Validation
- Accuracy, Precision, Recall, F1-Score
- Confusion Matrix, ROC-AUC Curve

8. Deep Learning (Basics)

- Introduction To Neural Networks
- Activation Functions
- Forward & Backpropagation
- Using TensorFlow / Keras / PyTorch For Simple Models

9. Big Data & Clod Basics (Optional But Recommended)

- Basics Of Big Data (Hadoop, Spark)
- Working With Cloud Platforms (AWS, GCP, Azure)
- Deploying ML Models On The Cloud

10. Data Science Projects

- Data Collection → Cleaning → EDA → Model Building → Deployment
- Examples: Sales, Prediction, Customer Segmentation, Sentiment Analysis

11. Soft Skills & Tools

- Git & GitHub For Version Control
- Jupyter Notebooks / VS Code
- Writing Technical Documentation
- Presenting Data Insights.

Trainer	Dr. Snehalata Agasti
Discounted Fee	₹ 29,999
Duration	6 Months