DATA SCIENCE
Learn From Industrial Expert

Course Duration :- 12 MONTHS

Python
- ✓ Introduction to Python
- ✓ Python Data Types
- ✓ Variables and Operators
- ✓ Control Structures (if-else, loops)
- ✓ Functions and Modules
- ✓ Exception Handling
- ✓ File Handling
- ✓ List Comprehensions
- ✓ Lambda Functions
- ✓ Decorators
- ✓ Generators
- ✓ Object-Oriented Programming
- ✓ Working with Dates and times
- ✓ Regular Expressions
- ✓ Python Libraries Overview
- ✓ (Numpy,Pandas, etc.)

NumPy
- ✓ Introduction to NumPy
- ✓ Arrays and Matrices
- ✓ Array Indexing and Slicing
- ✓ Array Manipulation
- ✓ Array Broadcasting
- ✓ Mathematical Operations on Arrays
- ✓ Statistical Functions
- ✓ Linear Algebra Operations
- ✓ Random Number Generation
- ✓ Sorting and Searching Arrays
- ✓ File I/O with NumPy
- ✓ Handling Missing Data
- ✓ Performance Optimization
- ✓ Integration with Pandas
- ✓ Visualization with NumPy

Pandas
- ✓ Integration with Pandas
- ✓ Series and DataFrames
- ✓ DataFrame Operations
- ✓ Indexing and Selecting Data
- ✓ Handling Missing Data
- ✓ Data Cleaning and Preparation
- ✓ Merging and Joining DataFrames
  Grouping and Aggregation
- ✓ Pivot Tables
- ✓ Time Series Analysis
- ✓ Reading and Writing Data (CSV, Excel,SQL, etc.)
- ✓ Visualization with Pandas
- ✓ Working with Text Data
- ✓ Performance Optimization
- ✓ Case Studies and Practical

Seaborn
- ✓ Introduction to Seaborn
- ✓ Seaborn vs. Matplotlib
- ✓ Basic Plotting with Seaborn
- ✓ Categorical Plots
- ✓ Distribution Plots
- ✓ Matrix Plots
- ✓ Regression Plots
- ✓ Multi-Plot Grids
- ✓ Customizing Seaborn Plots
- ✓ Styling Seaborn Plots
- ✓ Plot Aesthetics
- ✓ Working with Color Palettes
- ✓ Combining Seaborn with Matplotlib
  Advanced Plotting Techniques
- ✓ Practical Data Visualization Projects

Matplotlib
- ✓ Introduction to Matplotlib
- ✓ Basic Plotting with Matplotlib
- ✓ Customizing Plots
- ✓ Working with Figures and Axes
- ✓ Plot Types (Line, Bar, Histogram, etc)
- ✓ Subplots
- ✓ Annotations and Text
- ✓ Legends and Labels
- ✓ Plot Aesthetics
- ✓ Saving and Exporting Plots
- ✓ Interactive Plots
- ✓ 3D Plotting
- ✓ Integrating with Other Libraries
- ✓ (NumPy, Pandas)
- ✓ Advanced Customization Techniques
- ✓ Visualization Projects

Scikit-Learn
- ✓ Introduction to Scikit-Learn
- ✓ Data Preprocessing
- ✓ Supervised Learning
- ✓ Unsupervised Learning
- ✓ Model Evaluation and Selection
- ✓ Cross-Validation
- ✓ Feature Engineering
- ✓ Dimensionality Reduction
- ✓ Hyperparameter Tuning
- ✓ Ensemble Methods
- ✓ Pipelines and Workflow
- ✓ Model Deployment
- ✓ Text Mining and NLP
- ✓ Working with Imbalanced Data
- ✓ Case Studies and Practical

Generative AI
- ✓ Introduction to Generative AI
- ✓ Basic Concepts and Applications
- ✓ Generative Adversarial Networks(GANs)
- ✓ Variational Autoencoders (VAEs)
- ✓ Recurrent Neural Networks (RNNs) for Generation
- ✓ Text Generation
- ✓ Image Generation
- ✓ Style Transfer
- ✓ Music and Audio Generation
- ✓ Ethical Considerations
- ✓ Performance Optimization
- ✓ Deployment and Applications
- ✓ Advanced Generative Models
- ✓ Case Studies
- ✓ Practical Projects

Streamlit
- ✓ Introduction to Streamlit
- ✓ Setting Up Streamlit
- ✓ Creating a Basic App
- ✓ Widgets and User Inputs
- ✓ Data Display and Visualization
- ✓ Layout and Customization
- ✓ Integrating with Pandas
- ✓ Working with Plotly and Seaborn
- ✓ File Uploads and Downloads
- ✓ Interactive Dashboards
- ✓ Deploying Streamlit Apps
- ✓ Advanced Customization
- ✓ Performance Optimization
- ✓ Real-world Applications
- ✓ Streamlit Projects

Tableau
- ✓ Introduction to Tableau
- ✓ Tableau Interface and Navigation
- ✓ Connecting to Data Sources
- ✓ Creating Basic Visualizations
- ✓ Advanced Chart Types
- ✓ Dashboards and Stories
- ✓ Calculations and Parameters
- ✓ Filters and Interactive Elements
- ✓ Mapping and Geospatial Analysis
- ✓ Data Blending and Joins
- ✓ Tableau Public and Online
- ✓ Tableau Server and Sharing
- ✓ Performance Optimization
- ✓ Tableau Extensions and Integrations
- ✓ Real-world Case Studies

Power BI
- ✓ Introduction to Power BI
- ✓ Power BI Desktop Interface
- ✓ Connecting to Data Sources
- ✓ Data Transformation with Power Query
- ✓ Creating Basic Visualizations
- ✓ Advanced Visualizations
- ✓ Dashboards and Reports
- ✓ DAX (Data Analysis Expressions)
- ✓ Filters and Slicers
- ✓ Publishing and Sharing Reports
- ✓ Power BI Service
- ✓ Row-Level Security
- ✓ Power BI Mobile
- ✓ Performance Optimization
- ✓ Real-world Case Studies

SQL Server
- ✓ Introduction to SQL Server
- ✓ SQL Server Installation and Setup
- ✓ Basic SQL Queries
- ✓ Advanced SQL Queries
- ✓ Database Design and Normalization
- ✓ Indexing and Performance Tuning
- ✓ Stored Procedures and Functions
- ✓ Triggers and Views
- ✓ Transactions and Concurrency
- ✓ Data Backup and Recovery
- ✓ Security and Permissions
- ✓ Integration with Python and R
- ✓ SQL Server Reporting Services(SSRS)
- ✓ SQL Server Integration Services (SSIS)

Advanced Excel
- ✓ Introduction to Advanced Excel
- ✓ Advanced Formulas and Functions
- ✓ Data Validation and Conditional Formatting
- ✓ Pivot Tables and Pivot Charts
- ✓ Advanced Charting Techniques
- ✓ Macros and VBA
- ✓ Data Analysis Tools (Solver, Analysis ToolPak)
- ✓ Power Query and Power Pivot
- ✓ Working with Large Data Sets
- ✓ Data Visualization Techniques
- ✓ Dashboards and Reports
- ✓ Excel Integration with Other Tools
- ✓ Collaboration and Sharing
- ✓ Performance Optimization
- ✓ Real-world Case Studies