



Data Analyst

Course Modules & Topics

Module 1: Introduction to Data Analysis

- What is Data Analysis?
 - Data Analyst vs Data Scientist
 - Data Analysis Lifecycle
 - Applications in Various Domains
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Module 2: Excel for Data Analysis

- Data Entry, Cleaning, and Formatting
 - Conditional Formatting, Pivot Tables
 - Charts & Dashboards
 - Excel Formulas and Functions (VLOOKUP, IF, etc.)
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Module 3: Python for Data Analysis

- Python Basics (Variables, Loops, Functions)
 - Libraries: NumPy, Pandas, Matplotlib, Seaborn
 - Data Wrangling and Cleaning
 - Exploratory Data Analysis (EDA)
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Module 4: SQL for Data Manipulation

- SQL Basics: SELECT, INSERT, UPDATE, DELETE
 - Joins, Aggregations, Subqueries
 - Window Functions
 - Real-world SQL Practice on Databases
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Module 5: Data Visualization

- Visualization Concepts
 - Charts: Bar, Pie, Line, Scatter, Histogram
 - Tools: Tableau, Power BI, or Python (Matplotlib, Seaborn)
 - Creating Interactive Dashboards
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Module 6: Statistics for Data Analysis

- Descriptive Statistics (Mean, Median, Mode, Std Dev)
 - Probability Basics
 - Hypothesis Testing
 - Correlation and Regression
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Module 7: Data Cleaning & Preprocessing

- Handling Missing Data
 - Data Type Conversion
 - Outlier Detection
 - Data Normalization and Transformation
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📁 Module 8: Intro to Predictive Analysis (Optional)

- Linear Regression
 - Logistic Regression
 - Model Evaluation Metrics
 - Intro to Machine Learning in Analytics
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📁 Module 9: Reporting & Business Intelligence

- Data Storytelling Techniques
 - BI Tools: Tableau, Power BI
 - Creating Reports & Presentations
 - Sharing Insights with Stakeholders
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📁 Module 10: Capstone Project

- Analyze a real-world dataset (e.g., Sales, Finance, Healthcare)
- Perform Data Cleaning, Analysis, Visualization
- Create a Report & Present Insights
- Tools: Python + SQL + Power BI/Tableau