Data Analytics Mentorship Program(DAMP)

Curriculum

➔ Module 1 - Fundamentals of Programming using Python
- ◆ Python basics
- ◆ Control flow in Python
- ◆ Data Structures in Python
- ◆ Functions in Python
- ◆ Object-oriented programming in Python
- ◆ File handling
- ◆ Exception handling
- ◆ Numpy
- ◆ Pandas
- ◆ Matplotlib
- ◆ Seaborn

➔ Module 2 - Statistics
- ◆ Introduction to Statistics
- ◆ Measures of central tendency
- ◆ Measures of dispersion
- ◆ Correlation and covariance
- ◆ Data visualization using graphs
- ◆ Probability Distributions
- ◆ Central Limit Theorem
- ◆ Confidence Interval
- ◆ Hypothesis Testing
- ◆ Fundamentals of Probability

➜ Module 3 - Data Analysis using Python

- ◆ Data Gathering from API
- ◆ Web Scraping
- ◆ Data Cleaning
- ◆ Exploratory Data Analysis
- ◆ Data Storytelling
- ◆ Streamlit

➜ Module 4 - Data Analysis using SQL

- ◆ Fundamentals of Databases
- ◆ OLAP vs OLTP
- ◆ SQL DDL commands
- ◆ SQL DML commands
- ◆ SQL Grouping and Sorting
- ◆ SQL Joins
- ◆ Subquery
- ◆ Window Functions
- ◆ Stored Procedures, View and Triggers
- ◆ Optimizing SQL queries
- ◆ Data analysis using SQL

➜ Module 5 - PowerBI

- ◆ Introduction to PowerBI
- ◆ Understanding the PowerBI interface
- ◆ PowerBI Visualizations
- ◆ PowerBI filtering and interactivity
- ◆ DAX
- ◆ Advance DAX and Data modelling
- ◆ Power Query
- ◆ Advance Data transformation and integration
- ◆ PowerBI Services
- ◆ PowerBI Architecture

◆ PowerBI AI Integration

➔ Module 6 - Data Analysis using MS Excel

◆ Excel Basics

◆ Data entry and basic functions

◆ Logical and data validation functions

◆ Lookup and reference functions

◆ Text manipulation functions

◆ Excel tables and structured data

◆ Pivot tables for data analysis

◆ Advanced pivot table techniques

◆ Data visualization basics

◆ Advance charting techniques

◆ Conditional formatting and sparklines

◆ Dashboard design principles

◆ Advance dashboarding techniques

◆ Power query and data transformation

➔ Projects

◆ Interactive Text Analysis Platform

- Load and preview datasets interactively.
- Preprocess text with tokenization, stopword removal, and lemmatization.
- Perform sentiment analysis and visualize results.
- Extract and display topics using LDA or NMF.
- Highlight keywords with frequency and relevance scores.
- Create interactive visualizations for insights like sentiment trends and topic distributions.
- Provide search and filtering options for text exploration.
- Use Streamlit for an intuitive and responsive UI.
- Export analysis results and processed data.
- Deploy online for accessibility and scalability.

◆ E-commerce Sales Analysis

- Extract e-commerce data from databases using SQL.
- Preprocess and transform data with Python.
- Load processed data into a data warehouse.
- Create interactive Power BI dashboards for sales analysis.
- Streamline data handling for improved decision-making.

◆ Financial Data Analysis using Excel

- Automate daily collection of Excel files from field agents.
- Develop a pipeline to download and combine data.
- Clean and preprocess data for consistency.
- Generate dashboards in MS Excel for analysis.
- Enable efficient and timely financial decision-making.

◆ Uber Data Analysis

- Automate ETL process for Uber trip data using Python.
- Load and clean data into a data warehouse.
- Create interactive Power BI dashboards.
- Visualize ride patterns, peak hours, and revenue trends.
- Support data-driven decision-making.

Note - Projects are tentative and might change in the future