Project: Trade & Ahead

Trade&Ahead is a financial consultancy firm that provides its customers with personalized investment strategies. The data provided is of stock prices and some financial indicators like ROE, earnings per share, P/E ratio, etc. for a few companies listed under the New York Stock Exchange.

Covered Skills and Tools

- Conducted a thorough analysis of stock prices and financial indicators for companies listed on the New York Stock Exchange, employing Exploratory Data Analysis (EDA) techniques. This included defining problems and formulating questions, examining data backgrounds, and conducting univariate and bivariate analyses to derive insights.

- Executed data preprocessing steps such as duplicate value checks, missing value treatment, and outlier checks, ensuring data integrity. Applied feature scaling to optimize the dataset for subsequent analyses.

- Implemented K-Means clustering to categorize stocks based on provided attributes, creating distinct groups. Utilized techniques such as plotting the Elbow curve, checking Silhouette Scores, and profiling clusters to determine the optimal number of clusters.

- Applied Hierarchical clustering using different linkage methods, visualizing results through dendrograms and assessing cophenetic correlation. Conducted a comparative analysis between clusters obtained from K-Means and Hierarchical clustering techniques.

- Delivered actionable insights and recommendations based on the clustered groups, providing valuable takeaways for business decision-making.

- Other Covered Skills: K-Means Clustering, Hierarchical Clustering, Exploratory Data Analysis (EDA), Duplicate Value Check, Missing Value Treatment, Outlier Check, Feature Scaling.

- Used Tools and Python Libraries: Pandas, Numpy, Matplotlib, Seaborn, Sklearn, Scipy, Yellowbrick.