PROJECT REPORT

The problem statement was to understand Target Customers needed for marketing team to plan a strategy. In this project, exploratory data analysis was performed and segmentation of customer groups was achieved. The data contain 200 datasets with CustomerID, Age, Gender, Annual Income (k$) and Spending Score (1-100) features.

First, Univariate analysis was performed on the dataset using each feature to visualize how the data spread across the mean using Distribution plot. Also, the relationship between the Gender was visualized using the Kernel Distribution Estimation (KDE) Plot as well as Boxplot.

Similarly, Bivariate analysis was performed on the dataset using Annual Income (k$) and Spending Score (1-100). The correlation was further visualized between Age, Annual Income (k$) and Spending Score (1-100) using Pair Plot, and Heatmap.

Univariate, Bivariate and Multivariate Analysis were performed using Clustering Model. KMeans Function was used with number of clusters of 3 for the Univariate analysis, 5 for Bivariate analysis and 4 for Multivariate analysis.

As shown in the figure below, the Bivariate Analysis with Cluster 2 has the higher number of **_Annual Income of_** 86.53(k$) and **_Spending Score (1-100) of_** 82.13. The Target group would therefore, be Cluster 2. Also, the percentage of **women** that shop in **cluster 2 is 54%.** It is recommended that Marketing Campaigns that would help attract women should be launched in this cluster with focus on popular items.

Likewise, Cluster 3 unfolds interesting and amazing opportunity that waits to be exploits. This is because it has _Annual Income_ of 26(k$) but **high** _Spending Score (1-100)_ of **79.** This offers a medium to market to customers for sales on popular items as well.