Customer Personality Analysis

Dimensionality Reduction & Clustering

Dimensionality Reduction

- Applied PCA to reduce features to 3 dimensions: Expenses, Income, and Total Purchases.

Clustering

- Used Agglomerative Clustering to identify 4 distinct customer groups.

- Visualized clusters in both 2D and 3D to understand segment characteristics.

Cluster Profiles

- High Expenses, Low Income: Likely high-spending despite constraints.

- Moderate Income & Expenses: Largest group with balanced behavior.

- Low Expenses & Income: Conservative spenders.

- High Income, Low Expenses: Potential for premium upselling.