

Clustering Analysis Report

Clustering Results:

In this analysis, a Gaussian Mixture Model (GMM) clustering technique was applied to group the data into different clusters. The results, as visualized in the scatter plot, demonstrate clear group separation based on PCA-reduced components. The clustering performance is summarized below.

Key Metrics:

- Number of clusters formed: 3
- Davies-Bouldin Index (DB Index): 1.1659

The DB Index measures the quality of the clustering. A lower value generally indicates better-defined clusters. Here, the value of 1.1659 suggests that the clusters are reasonably well-separated and cohesive.

Interpretation:

The PCA-based clustering visualized in the plot shows three distinct clusters, each representing groups of data points with similar features. The Gaussian Mixture Model proves effective in identifying these patterns. This clustering result can be further analyzed for domain-specific insights.

Clustering Visualization :

