

Clustering Report

1. Number of Clusters Formed

- 4 clusters were used for clustering the dataset.

2. Davies-Bouldin Index Value

- The Davies-Bouldin Index (DBI) for the clustering solution is 0.7437.
- A lower DBI indicates better clustering quality. This result suggests that the clusters are relatively compact and well-separated, pointing to an effective segmentation of the dataset.

3. Silhouette Score

- The silhouette score is 0.4680, which measures the similarity of data points within the same cluster compared to other clusters.
- A score of 0.4680 indicates moderate cluster separation. While the clusters are reasonably distinct, there may still be some overlap, leaving room for further optimization.

Conclusion

The clustering results are promising, with a low DBI of 0.7437 and a moderate silhouette score of 0.4680. These metrics reflect reasonably distinct clusters, which can serve as a solid foundation for customer segmentation strategies. Further optimization through feature engineering, algorithm selection, or parameter tuning could enhance cluster quality.