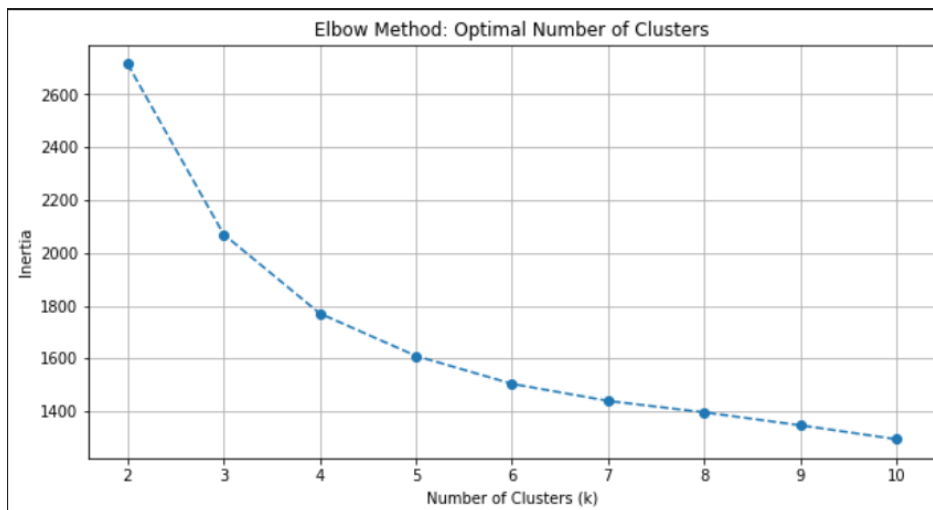


Task 3: Customer Segmentation / Clustering

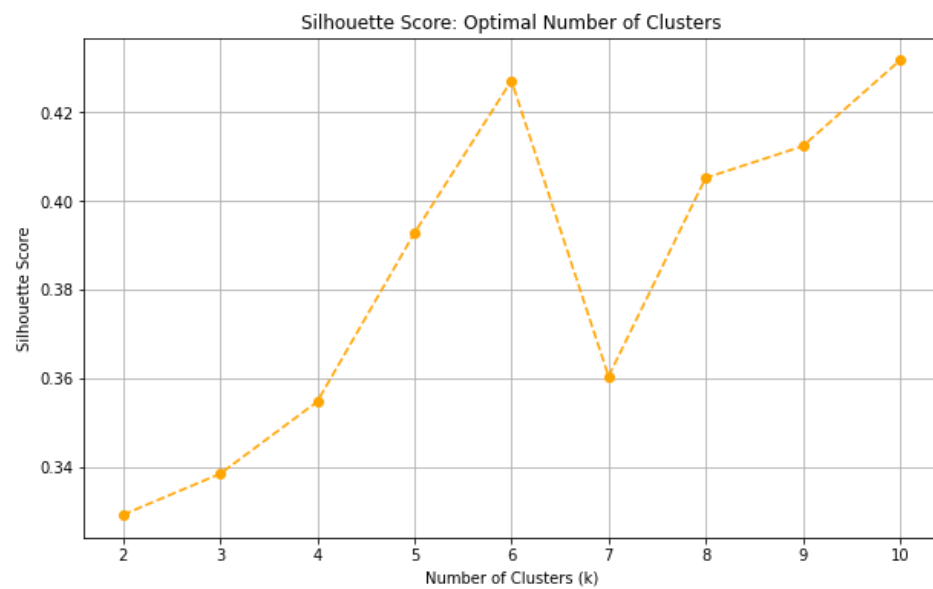
Report

Algorithm used: K-Nearest Neighbour (KNN)

Number of optimum clusters by elbow method, $k = 4$



Number of optimum clusters by silhouette score, $k = 6$



Lowest DB-index value (1.276) occurs at $k = 3$

DB-index values

```
[1.3732964944135821,  
1.2762843735437983,  
1.317955198859234,  
1.5286813281818423,  
1.705915893176444,  
1.737700643330643,  
1.7962853743938771,  
1.8884473121896532,  
1.8828910175597773]
```

Therefore, number of optimum clusters by DB-index value, $k = 3$

Optimum value of k chosen = 3.

Customer segmentation using t-SNE for $k=3$.

