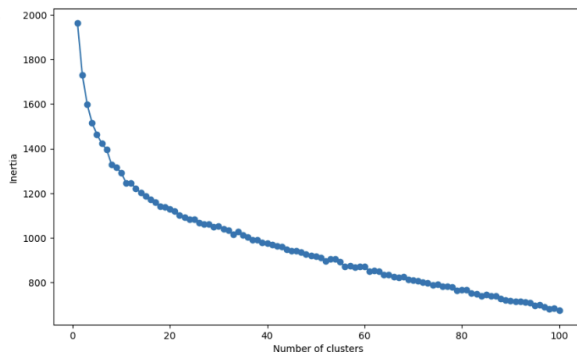
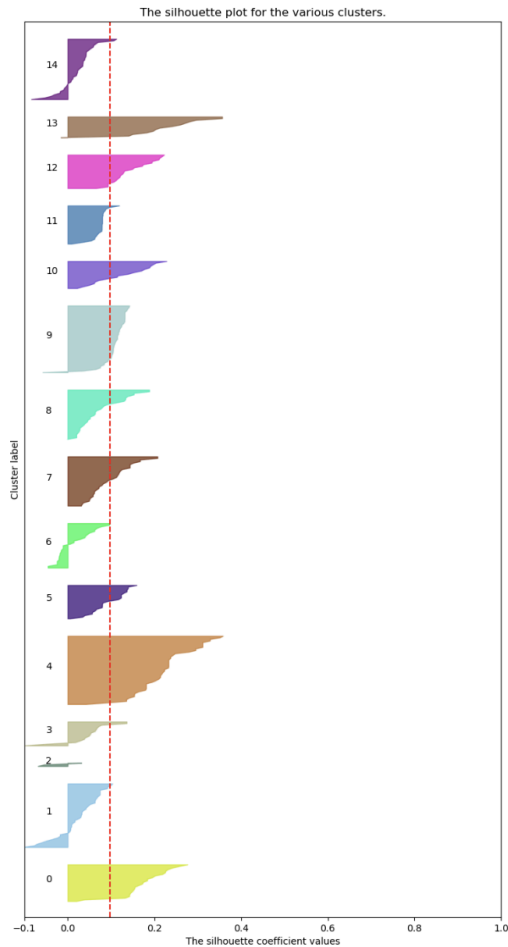


For $n_clusters = 15$ The average silhouette_score is : 0.09786079923324947

Silhouette analysis for KMeans clustering on sample data with $n_clusters = 15$



For my assignment, I selected specific columns from the dataset, namely 'art_movement', 'museum_venue', 'primary_medium', 'medium', 'country_of_origin', 'co', and 'has_text', to explore the optimal clustering of artworks. Through an analysis of silhouette scores and elbow graphs, it became evident that 15 clusters provided the most promising results compared to other clustering options. Despite encountering a lower silhouette score and suboptimal shape in the elbow graph, I observed that the resulting clusters exhibited a meaningful grouping of images.

For instance, cluster 14 predominantly consisted of historical pieces, while cluster 13 predominantly contained physical sculptures. Additionally, cluster 13 showcased geometric artworks, cluster 12 represented abstract and low-saturated images, and cluster 2 displayed abstract compositions, among other distinct clusters. While there were instances where certain images could arguably belong to different clusters, the combination of cluster selection and column choices ultimately led to what I believe are the most cohesive groupings.