Home assignment 1

Performance evaluation

Representative based clustering using k-means algorithm

Table 1: Hyperparameters for k-means

Parameter	Value
clusters	4
iterations	10
metric function	Euclidean distance

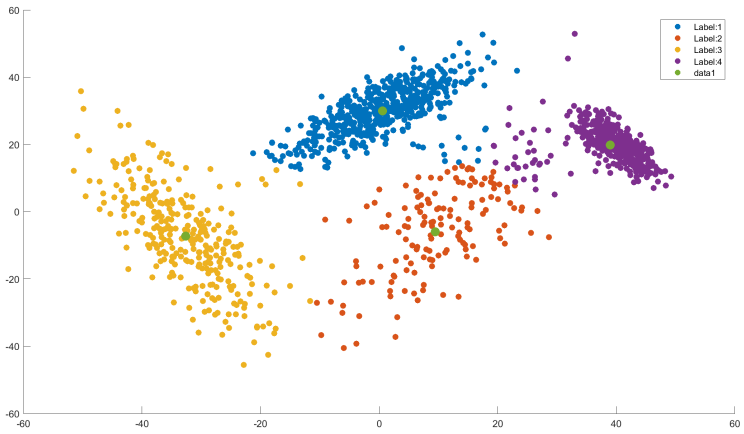

Figure 1: Result with own implementation using Euclidean distance

Here green marks represent final position of centroids.

Matlab's implementation produces identical result.

Euclidean distance seems to best fit the k-means in general, but here Cosine distance is used for comparison.

Density based clustering using DBSCAN

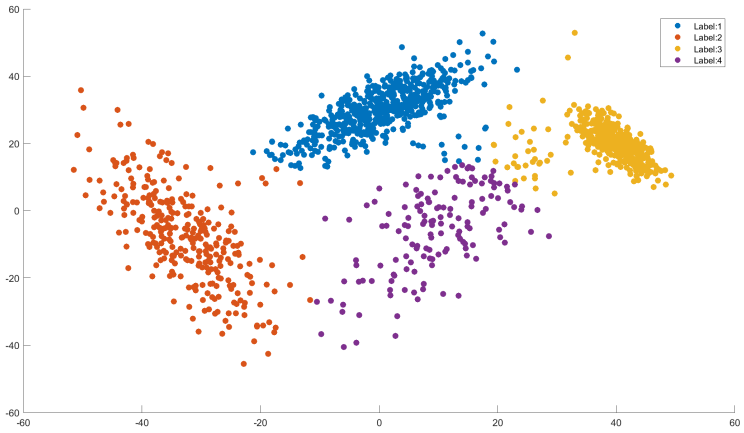

Figure 2: Result with Matlab implementation

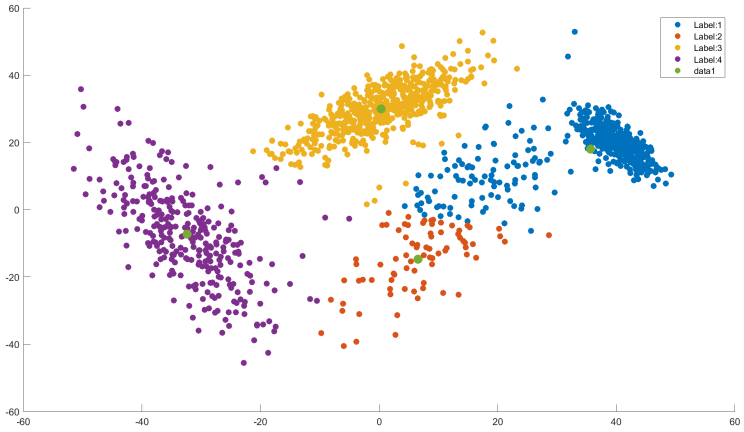

Figure 3: Result with own implementation using Cosine distance

Table 2: Hyperparameters for DBSCAN

Parameter	Value
epsilon	4
minPts	7
metric function	Euclidean distance

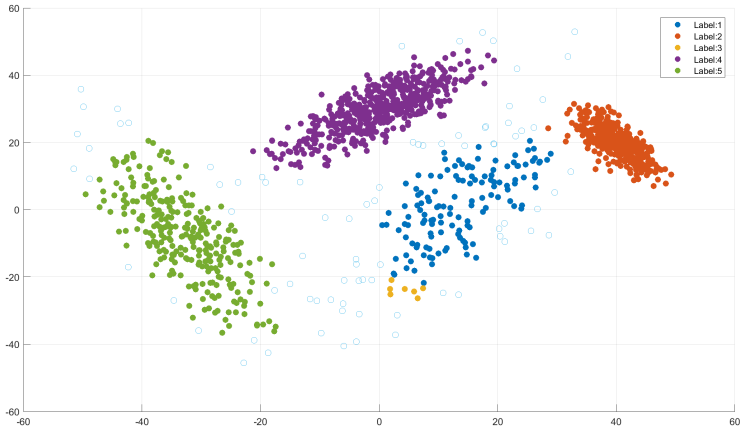

Figure 4: Result with own implementation using Euclidean distance