

Homework 3  
CS659, Spring 2015  
Due April 7, 2015 in class

Given the two datasets found [here](#) and [here](#), do the following

1. Cluster each dataset using K-means, EM, and DBScan. Try different values of  $k$  in the interval  $[2, 5]$  for K-Means.
2. Determine, using SSE which is the best value of  $K$ . Compare with what DBScan finds.
3. For your best clustering, in all cases (K-means, EM, and DBScan), and for both datasets, do the following
  - a. Measure the clustering validity using correlation
  - b. Produce a graphic that shows how the clustering information and the similarity matrix 'correlate' with each other (order the points according to their cluster labels and visualize their similarity).
  - c. Compute the silhouette coefficient