**ECE 8527: Introduction to  
Machine Learning and Pattern Recognition**

# HW No. 11: Clustering

For the Yin-Yang data of HW #3, cluster the data into N clusters using K-Means and a top-down clustering approach (Linde-Buso-Gray algorithm). Compare the two clustering approaches by measuring (1) the overall distortion (compute the mean-square error for each cluster) on the training data and (2) the classification error rate using a simple Euclidean distance criterion from the cluster centers.

Comment on and justify your findings.