CS6690: Pattern Recognition
Programming Assignment-II

Datasets:

(a) Image Dataset
(b) Digit Dataset

The task is to perform classification by modeling the the class conditional density as Gausian Mixture Model for Datasets (a) & (b) and as Discrete Hidden Morkov Model (DHMM) for the same datasets. Experiment for both Diagonal and Full covariance matrices.   DHMM implementation can be found here. Also implement DTW for identification of digits by matching for dataset (b). **NOTE: Since it was told in class to experiment with a bigger dataset . Please refer to the new data description file for the digits to be worked with. The old file is also available so that it helps you to download all necessary datasets.**

Deadline for submission of report:

11.55PM, Friday, 18th Oct 2013

The group details can be found here

Image Data set : 23-dimensional image data corresponding to different scenes
Every group is provided with the data for three scenes. The information about the scenes provided for each group can be obtained from: group_scene_mapping. The 23 dimensional features include color histogram, edge directed histograms and Entropy of wavelet coefficients extracted for local blocks of an image for a particular scene. Multiple images for a particular scene are provided in separate files inside the respective folders corresponding to different classes.

Coast[Features] [Picture]   Forest[Features] [Picture]
Tall Building [Features] [Picture]   Street [Features] [Picture]
Open Country [Features] [Picture] Mountain [Features] [Picture]
Highway [Features] [Picture]   Inside City [Features] [Picture]

Digit Dataset : 39-dimensional speech data corresponding to isolated digit utterances.
Every group is provided with the data for three digits. The information about the digits provided for each group can be obtained in: group_digit_mapping. Old file is here: earlier_group_digit_mapping. The 39 dimensional MFCC features extracted frame by frame from utterances for a particular digit by multiple people are provided in separate files inside the respective folders corresponding to classes.

[Group-01] [Group-02] [Group-03] [Group-04] [Group-05]
[Group-06] [Group-07] [Group-08] [Group-09] [Group-10]
[Group-11] [Group-12] [Group-13]