CS6300 - Speech Technology: Laboratory 4

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1. Extract features using the code provided for the digits (single digit) database given. Divide the dataset into train and test. Additional credit – experiment with your own code. Identify test digits using dynamic programming.

2. Repeat the above experiment using the discrete HMM code provided. You have to first perform K-means clustering using the training examples. Form a codebook of size M (experiment with different values). Convert the feature vectors to a symbol sequence train HMM models for each of the digits. Compare the results obtained with that of DTW based isolated word recognition.

Extra credit   Extension of the above models for connected digit recognition. The isolated digit models can be converted to connected word models using 2LDP or connnected digit HMM recognition. A validation set and blind set will be given for testing, where the number of digits can vary between 2 and 3.