CAP5415 Computer Vision Fall 2014
Programming Assignment # 4

Face Recognition

Download Face Recognition dataset from: http://vision.ucsd.edu/content/yale-face-database

The Yale Face Database contains 165 grayscale images in GIF format of 15 individuals. There are 11 images per subject, one per different facial expression or configuration: center-light, w/glasses, happy, left-light, w/no glasses, normal, right-light, sad, sleepy, surprised, and wink.

i. Divide image into small blocks and extract local binary patterns (*lpb*) from each block. Concatenate all *lbp* histograms to make feature vector of an image.

ii. Use gray levels of images as another feature vector.

iii. Take four images of each person for testing and the rest as training examples.

iv. Use following methods to classify image using one-verses all classification scheme
   a. PCA
   b. LDA
   c. PCA-SVM

v. Show your results for few images and report your accuracy for all testing images using gray level and *lbp* for three classification methods.

Deliverables:

1. Report including Input and Output images (Soft Copy)

2. Code (Soft copy)

Please send your assignments by email to waqas5163@gmail.com. Please use Assig_4_CAP541514 as subject of the email.

Note: Please write some lines about how to run your code.