

Instructions to run the code:

1. Open the command prompt and change the directory to the folder containing the jupyter notebook.
2. Type jupyter notebook in the command prompt. A window will open in the browser. Open PRP.ipynb file.
3. Click on 'Kernel' and then click on 'Restart and Run All'.
4. All the cells in the file will run.
 - a. First cell imports packages that are used in the code.
 - b. Second cell splits data into train and test images and loads the test images.
 - c. Third cell calculates the mean face vector of training images.
 - d. Fourth cell subtracts the mean from all the training images.
 - e. Fifth cell calculates the eigenfaces.
 - f. Sixth cell finds the weights of the training images.
 - g. Seventh cell loads test images, adds images of unknown people to the test images and subtracts mean from each of the test images.
 - h. Eighth cell reconstructs a face and non face image and calculates Euclidean distance between original and the reconstructed image.
 - i. Ninth cell calculates the threshold for the face space.
 - j. Tenth cell adds non face images to the test set, by resizing them and subtracting the mean face from them.
 - k. Eleventh cell calculates weights and classifies them.
 - l. Twelfth cell detects faces from non centered images, crops them and resizes them.
 - m. Thirteenth cell tests the model on the detected faces.