Assignment on PCA (#8)

Title: Implementation of PCA algorithm for Face recognition

Name of the instructor- Prof G C Nandi

References: " My video lectures on ML: 42-44 ".

Full marks-100

Using the face dataset:
https://drive.google.com/drive/u/2/folders/1XGdUi0w_FcHcnlQt9mU5y_PNLyFhCW9V
design a face recognition system using Python.

Hints:

Use of following libraries are allowed:

- Numpy, Scipy for matrix multiplication , finding SVD or Eigen vector etc.
- Open CV- Python library for inputting/reading images etc.

For step by step directions you may use the following link from my website.
https://docs.google.com/a/iiita.ac.in/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxnY25hbm
RpfGd4OjQzYjVhZTAwYTdmYjBmNjc

Take 60% data as training set and 40 % data as test set, evaluate your classifier on the following
Factors:
a) Change the value of k and then, see how it changes the classification accuracy. Plot
a graph between accuracy and k value to show the comparative study.
b) Add imposters (who do not belong to the training set) into the test set and then
recognize it as the not enrolled person.

Date of posting: 7-11-2020.
Deadline: 15-11-2020, 00:00.