Computer Vision – Project 4:

Develop a face recognition algorithm on the subset of the AR database available in Carmen. This means you need to identify the person in the picture. You may use any method provided you can defend its use to recognize that face's identity.

The provided database has 100 identities (50 male identities and 50 female Identities). Details on the database are described in the following link: http://www2.ece.ohio-state.edu/~aleix/ARdatabase.html

To test your algorithm, perform two experiments:

1. Cross-validation: randomly remove one sample from one of the identities at a time and keep the remaining samples in your training set; determine if that removed sample is classified properly with your algorithm. Repeat at least 10 times per identity.
2. Recognition of duplicates: Use the images of the first session for training and those of the second session for testing.

Write a brief report describing your method (≤ 2 pages), the intuition behind it, as well as its mean and median classification accuracy on the database. Add additional plots and analyses of your results as you see fit. Justify those choices, i.e., why is plotting the results this way important?

To construct your algorithm, you may use MATLAB **or** Python3. If you use python you must include instructions on how to install the needed libraries for your algorithm.

In your submission **DO NOT** include the data set. Submit your code and report in a single ZIP with your name.

When referring to samples for your method simply use the relative path not your full path, i.e., do this:

./../test2/sample_1.bmp

and not this:

/ComputerVisionIsAWESOME/CATVIDEOSANDOTHERSTUFF/test2/sample_1.bmp