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Assignment 9 – Face Recognition using PCA

Here we were to implement Face Recognition using Principal Component Analysis and one of the hyper-parameter in PCA implementation is ‘k’ which denotes the number of eigen vectors with the highest eigen values. This helps us in achieving Dimensionality Reduction as a d-dimensional data can now be represented as k-dimensional data, with the help of selected eigen vectors.

So one of the task was to vary over several values of k in the implementation of Face Regonition using PCA, and compare the accuracy of the model of each of the instances. We iterated over several values of k and the code file for all of them have been shared in the folder, and also the result obtained is as follows:

Value of ‘k’	Model Accuracy over Test data
5	58.125%
10	55.625%
15	50.625%
30	46.25%
50	42.50%
80	40.625%