

CS663: Assignment 4 - Q1

Pranav Sankhe
Kalpesh Krishna
Mohit Madan

Implemented a mini face recognition system using PCA.

Results on ORL Face Dataset

Applying PCA by computing eigenvectors of the covariance matrix

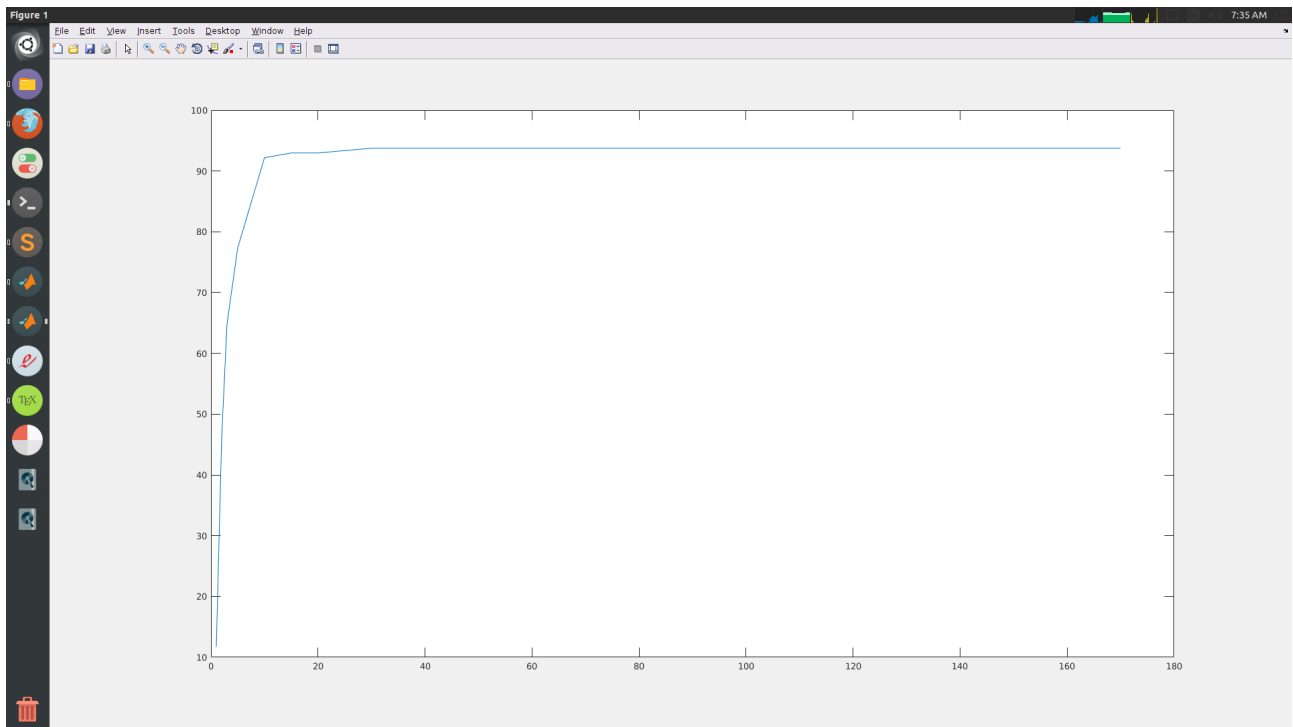


Figure 1: Recognition rate vs k(no. of principal components)

Applying PCA using Singular Value Decomposition (SVD)

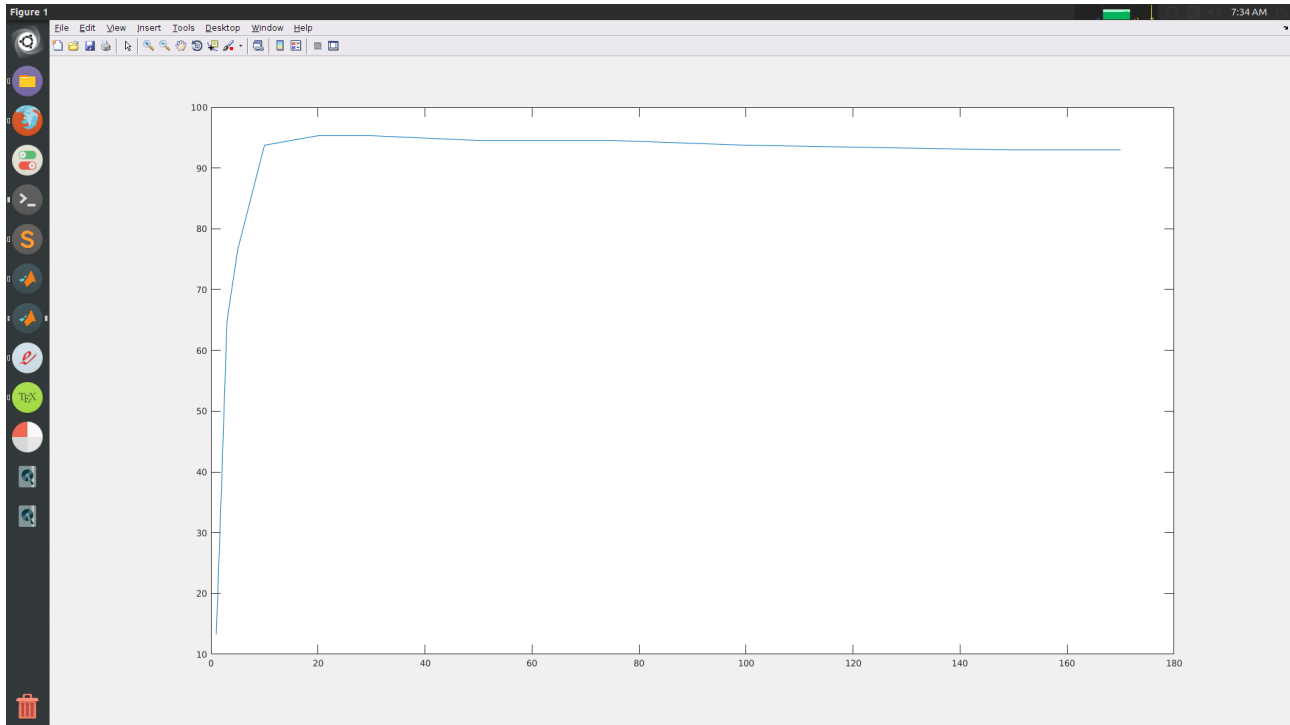


Figure 2: Recognition rate vs k(no. of principal components)

Results on Yale Dataset

Applying PCA using Singular Value Decomposition (SVD) comparing the results if we ignore the first three eigenvectors which corresponds to maximum variance in the dataset in order to analyse the effect of illumination conditions and how can we mitigate these effects. We can clearly see that by ignoring the first three eigenfaces, the recognition accuracy has increased.

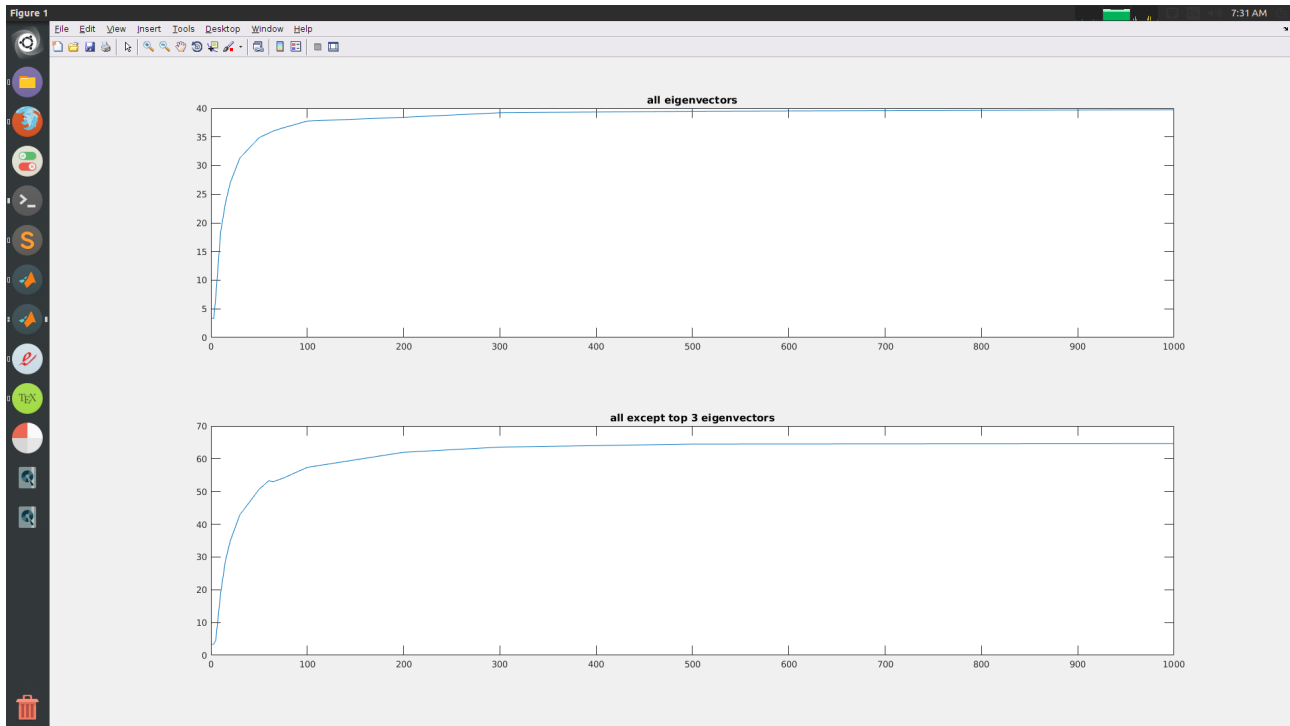


Figure 3: Recognition rate vs k(no. of principal components)