TRAINING EXERSICE – PCA

Read pages 559-570 in Bishop book – first part on PCA, then answer the next question and more in the internet ofcourse :)

In this exercise you will implement PCA on a given faces images dataset.

Only numpy,cv2 libraries are allowed. Matplotlib **only** to visualize results.

np.linalg – to calculate distances, eigenvalues and eigenvectors.

1. Present 5 most dominant eigenfaces spreading the data (“ghost images”)
2. Define metric between two images (use your own). It should have a defined rule for success or failure. What is the minimum number of eigenfaces needed to reach 60% precision on the given 10 images pair? Choose your metric wisely.