Supervised Dimensionality Reduction and Classification with Linear Discriminant Analysis

We compare the LDA and the PCA. We build our functions '*my_LDA()*' and '*predict()*' for the LDA classification as shown in the handout. On the other hand, we use the PCA to project the data on a two dimensional space where we train and test it with SVM. We report here the results for 20 runs:

	LDA	PCA
Average accuracy	97,07 %	37,8 %
standard deviation	2,61	4,26
minimum	92,2 %	20,77 %
maximum	100 %	48,05 %

It is clear that LDA is much better than PCA for classifying data. The maximum error for the LDA is around 7% while it can score up to 100% accuracy very often.