

Lab #6 : PCA

Objectives : learn how to use PCA to reduce the dimensionality of a dataset using sklearn.

Exercise #1

1. Load the digists dataset from sklearn.datasets
2. Print the number of samples and the number of features
3. Separate input features and target variables.
4. Split the data into training (80%) and test (20%)
5. Normalize the data using StandardScaler() function
6. Apply PCA to reduce the dimensionality of the dataset while keeping 95% of variance
7. Create and train an SVM classifier with RBF kernel and C=10 and gamma=0.001.
8. Use this model to predict the output for the test set.
9. Calculate the accuracy.