**CST8506 - Lab 2**

**Classification by SVM by applying PCA and LDA**

**Student Name:**

**Student Number:**

**For every step, include screenshot of the code and the corresponding results in this document (screenshot from colab/jupyter notebook). Also, in your words, explain your code and results. If there is no explanation, no marks will be given. No need to write long paragraphs, but one or 2 lines per step. Even if you are using default parameters, you must mention the default values and its meaning.**

1. Read statement

Number of instances:

Number of attributes:

First 5 rows:

1. Train & Test split
2. Standardize
3. SVM with 4 different kernels = ['linear', 'poly', 'rbf', 'sigmoid'] and select the best one
4. PCA
5. 2D Plots (2 subplots in parallel).
6. LDA
7. 2D Plots (2 subplots in parallel).
8. Fill in the following table (make sure to fill in the value for n\_components)

|  |  |  |  |
| --- | --- | --- | --- |
|  | Standardized | PCA (n\_components = x) | LDA (n\_components = x) |
| Confusion Matrix |  |  |  |
| Accuracy |  |  |  |

1. Manual Calculations of PCA (pictures/scans)