COS40007 Artificial Intelligence for Engineering  
Week 3 Studio Activities

Studio activity 6

After performing all the accuracy tests on both the models, the results are below.

|  |  |  |
| --- | --- | --- |
| SVM Model | Train-test split | Cross validation |
| Original features | 89.77% | 89.18% |
| With hyper parameter tuning | 83.63% | 83.58 |
| With feature selection and hype parameter tuning | 83.92% | 83.78% |
| With PCA and hyper parameter tuning | 83.69% | 83.60% |

Studio Activity 7

After performing The train-test and cross-validation with the original dataset with other available forms of classifiers, as listed, I have written down the observations as follows:

|  |  |  |
| --- | --- | --- |
| Model | **Train-Test Split** | **Cross Validation** |
| SVM | 89.56% | 89.17% |
| SGD | 80.05% | 87.26% |
| RandomForest | 92.61% | 92.59% |
| MLP | 89.40% | 83.76% |