Portfolio Assessment Report

Name: [Your Name]

Student Number: [Your Student Number]

Studio Class: [Your Studio Class]

Week 3 Studio:

Summary Table of Studio 3: Activity 6

Summary Table of Studio 3: Activity 7

Week 3 portfolio

Step 1: Data Collection

Description:

Extracted columns from the dataset and combined them with the class labels as required in the problem table.

Link to Source Code and Data:

Step 2: Create Composite Columns

Created composite features including RMS values and Roll/Pitch calculations.

Link to Source Code and Data:

[Link to Source Code and Data for Composite Columns]

Step 3: Data Pre-processing

Description:

Computed statistical features per minute (Mean, Standard Deviation, Min, Max, AUC, Peaks) from the 18 columns.

Link to Source Code and Data:

[Link to Source Code and Data for Data Pre-processing]

Step 4: Training

Outcome Summary Tables:

SVM Classifiers

Configuration Accuracy Precision Recall F1 Score Notes

Train-Test Split (70/30)

10-Fold Cross Validation

Hyperparameter Tuning

Hyperparameter Tuning + 10 Best Features

Hyperparameter Tuning + 10 Principal Components

Other ML Classifiers

Classifier Accuracy Precision Recall F1 Score Notes

SGD Classifier

RandomForest Classifier

MLP Classifier

Step 5: Model Selection

1) Best SVM Model:

The best SVM model for this problem is [describe the best model, e.g., "the SVM model with hyperparameter tuning and 10 principal components"], as it provided the highest accuracy and balanced performance metrics.

2) Best ML Model:

The best ML model for this problem is [describe the best model, e.g., "the RandomForest classifier"], due to its superior performance in terms of accuracy and F1 score.