**TSNE (3 Component) Machine Learning Algorithm Results for Subject 1**

**Time Calculations:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Algorithms | Exercise A  Movement = 13 | Exercise B  Movement = 17 | Exercise C  Movement = 23 | All Movements  Movement = 53 |
| Decision Tree Classifier | 1.441 | 4.898 | 11.136 | 19.463 |
| KNeighbors Classifier | 0.009 | 0.019 | 0.035 | 0.079 |
| Random Forest | 59.697 | 114.954 | 197.935 | 552.169 |
| Extra Trees Classifier | 13.503 | 15.302 | 17.373 | 85.729 |
| XGBoost | 143.805 | 147.139 | 335.742 | 1530.200 |

**Table:** Comparison of Time Calculations (Seconds)

**Accuracy Results:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Algorithms | Exercise A  Movement = 13 | Exercise B  Movement = 17 | Exercise C  Movement = 23 | All Movements  Movement = 53 |
| Decision Tree Classifier | 85.009% | 87.647% | 92.641% | 87.282% |
| KNeighbors Classifier | 88.661% | 89.956% | 94.082% | 89.844% |
| Random Forest | 88.341% | 90.169% | 94.205% | 90.328% |
| Extra Trees Classifier | 88.421% | 90.318% | 94.506% | 90.429% |
| XGBoost | 87.488% | 88.575% | 89.462% | 84.872% |

**Table:** Comparison of Accuracy.

**F1 Score Results:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Algorithms | Exercise A  Movement = 13 | Exercise B  Movement = 17 | Exercise C  Movement = 23 | All Movements  Movement = 53 |
| Decision Tree Classifier | 0.850 | 0.877 | 0.926 | 0.873 |
| KNeighbors Classifier | 0.882 | 0.898 | 0.940 | 0.895 |
| Random Forest | 0.881 | 0.899 | 0.941 | 0.901 |
| Extra Trees Classifier | 0.882 | 0.902 | 0.945 | 0.902 |
| XGBoost | 0.869 | 0.883 | 0.893 | 0.843 |

**Table:** Comparison of F1 Score.