# SUPPLEMENTARY DIGITAL CONTENT 1 (SDC 1)

Confusion matrices for prediction of SED, LPA and MVPA

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Model |  | SED | LPA | MVPA | Agreement | Wt. Kappa |
| RF Hip | SED | **962 [93.2]** | 62 [6.0] | 8 [0.8] | 83.7% | .8091 |
|  | LPA | 99 [14.6] | **488 [72.1]** | 90 [13.3] |  |  |
|  | MVPA | 31 [2.7] | 183 [16.0] | **931 [81.3]** |  |  |
|  |  |  |  |  |  |  |
| RF Wrist | SED | **919 [89.1]** | 74 [7.1] | 39 [3.8] | 82.1% | .7626 |
|  | LPA | 109 [16.1] | **465 [68.7]** | 103 [15.2] |  |  |
|  | MVPA | 82 [7.2] | 113 [9.9] | **950 [82.9]** |  |  |
|  |  |  |  |  |  |  |
| RF H & W | SED | **960 [93.0]** | 49 [4.8] | 23 [2.2] | 84.8% | .8086 |
|  | LPA | 88 [13.0] | **500 [73.9]** | 89 [13.1] |  |  |
|  | MVPA | 50 [4.4] | 143 [12.5] | **952 [83.1]** |  |  |
|  |  |  |  |  |  |  |
| SVM Hip | SED | **970 [94.0]** | 59 [5.7] | 3 [0.3] | 84.9% | .8225 |
|  | LPA | 86 [12.7] | **520 [76.8]** | 71 [10.5] |  |  |
|  | MVPA | 33 [2.9] | 187 [16.3] | **925 [80.8]** |  |  |
|  |  |  |  |  |  |  |
| SVM Wrist | SED | **929 [90.0]** | 95 [9.2] | 8 [0.8] | 83.5% | .7843 |
|  | LPA | 108 [16.0] | **499 [73.7]** | 70 [10.3] |  |  |
|  | MVPA | 95 [8.3] | 102 [8.9] | **948 [82.8]** |  |  |
|  |  |  |  |  |  |  |
| SVM H & W | SED | **977 [94.7]** | 46 [4.4] | 9 [0.9] | 87.7% | .8444 |
|  | LPA | 57 [8.4] | **543 [80.2]** | 77 [11.4] |  |  |
|  | MVPA | 48 [4.2] | 124 [10.8] | **973 [85.0]** |  |  |
|  |  |  |  |  |  |  |
| Hip VA Cut-point | SED | **919 [89.1]** | 100 [9.7] | 13 [1.2] | 70.2% | .6545 |
|  | LPA | 185 [27.3] | **254 [37.5]** | 238 [35.2] |  |  |
|  | MVPA | 76 [6.6] | 238 [20.8] | **831 [72.6]** |  |  |
|  |  |  |  |  |  |  |
| Hip VM Cut-point | SED | **942 [91.3]** | 89[8.6] | 1 [0.1] | 66.7% | .6132 |
|  | LPA | 195 [28.8] | **452 [66.8]** | 30 [4.4] |  |  |
|  | MVPA | 57 [5.0] | 581 [50.7] | **507 [44.3]** |  |  |
|  |  |  |  |  |  |  |
| Wr VA Cut-point | SED | **827 [80.1]** | 193 [18.7] | 12 [1.2] | 70.2% | .6439 |
|  | LPA | 45 [6.7] | **474 [70.0]** | 158 [23.3] |  |  |
|  | MVPA | 66 [5.8] | 377 [32.9] | **702 [61.3]** |  |  |
|  |  |  |  |  |  |  |
| Wr VM Cut-point | SED | **927 [89.8]** | 105 [10.2] | 0 [0.0] | 61.5% | .4898 |
|  | LPA | 232 [34.3] | **438 [64.7]** | 7 [1.0] |  |  |
|  | MVPA | 252 [22.0] | 502 [43.8] | **391 [34.2]** |  |  |

Wr = wrist, VA = vertical axis, VM = vector magnitude, SVM = support vector machine, RF = random forest