|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Accuracy | | | TNR | | | TPR | | |
|  | Min | Max | Mean | Min | Max | Mean | Min | Max | Mean |
| SVM | Freq | 0.6711 | 0.7895 | 0.7147 ± 0.0479 | 0.7200 | 08276 | 0.7573 ± 0.0368 | 0.0.6429 | 0.7660 | 0.6958 ± 0.0537 |
| Hist | 0.6316 | 0.7105 | 0.6753 ± 0.0287 | 0.7333 | 0.8824 | 0.8158 ± 0.0590 | 0.6066 | 0.6610 | 0.6368 ± 0.0198 |
| **RF** | Freq | 0.6623 | 0.7368 | 0.6964 ± 0.0239 | 0.6216 | 0.7778 | 0.6843 ± 0.0518 | 0.6889 | 0.7368 | 0.7109 ± 0.0161 |
| **Hist** | **0.7662** | **0.8684** | **0.8353 ± 0.0375** | **0.7429** | **0.8710** | **0.8201 ± 0.0431** | **0.7857** | **0.8974** | **0.8353 ± 0.0375** |
| NB | Freq | 0.6447 | 0.7237 | 0.6885 ± 0.0342 | 0.6452 | 0.7500 | 0.6841 ± 0.0368 | 0.6400 | 0.7381 | 0.6941 ± 0.0406 |
| Hist | 0.7013 | 0.7632 | 0.7356 ± 0.0219 | 0.6970 | 0.7917 | 0.7615 ± 0.0332 | 0.6923 | 0.7556 | 0.7223 ± 0.0240 |
|  |  | Precision | | | Recall | | | F1-score | | |
|  | Min | Max | Mean | Min | Max | Mean | Min | Max | Mean |
| SVM | Freq | 0.6933 | 0.7968 | 0.7266 ± 0.0417 | 0.6533 | 0.7819 | 0.7035 ± 0.0515 | 0.6439 | 0.7841 | 0.7006 ± 0.0556 |
| Hist | 0.6699 | 0.7717 | 0.7263 ± 0.0392 | 0.6084 | 0.6899 | 0.6538 ± 0.0289 | 0.5827 | 0.6785 | 0.6369 ± 0.0336 |
| RF | Freq | 0.6608 | 0.7460 | 0.6976 ± 0.0275 | 0.6619 | 0.7268 | 0.6931 ± 0.0211 | 0.6609 | 0.7276 | 0.6928 ± 0.0216 |
| Hist | **0.7643** | **0.8676** | **0.8353 ± 0.0382** | **0.7643** | **0.8697** | **0.8344 ± 0.0385** | **0.7643** | **0.8681** | **0.8341 ± 0.0380** |
| NB | Freq | 0.6469 | 0.7292 | 0.6891 ± 0.0344 | 0.6331 | 0.7146 | 0.6824 ± 0.0362 | 0.6303 | 0.7154 | 0.6819 ± 0.0371 |
| Hist | 0.7008 | 0.7649 | 0.7419 ± 0.0220 | 0.6975 | 0.7575 | 0.7275 ± 0.0219 | 0.6980 | 0.7590 | 0.7282 ± 0.0227 |

0-normal, 1-slight, 2-mild, 3-moderate, 4-severe

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Image | Regression Prediction | Finger Tapping (3.4) | Hand Movement (3.5) | Pronation-Supination (3.6) | Postural Tremor (3.15) | Kinetic Tremor (3.16) | Resting Tremor (3.17) |
| 1\_1\_PE022    2\_1\_PE015 | 0.4870  0.5355  **0.5113** | 2  2 | 2  2 | 2  2,3 | 2  2 | -  2 | 2, 3  2 |
| 2\_2\_PE068 | **0.3242** | 2 | 2 | 2 | 2 | - | - |
| 1\_3\_PE081    2\_3\_PE074 | 0.3464  0.5132  **0.4298** | 3  2,3 | 2,3  3 | 2,3  3 | -  - | -  - | -  - |
| 1\_4\_PE0155    2\_4\_PE0147 | 0.2730  0.3690  **0.3210** | 2,3  2 | 3  2 | 2,3  2 | 2  2,3 | -  - | 2  2 |
| 1\_5\_PE0103    2\_5\_PE0100 | 0.4980  0.4805  **0.4893** | 2,3  2,3 | 2  2 | 2  2 | 3  3 | 3  2 | 2,3  2,3 |
| 1\_6\_PE009    2\_6\_PE006 | 0.5360  0.9092  **0.7226** | 2,3  2 | 2,3  2,3 | 2  2 | 2,3  2 | -  - | 2  2 |
| 1\_7\_PE0118    2\_7\_PE0112 | 0.3600  0.4010  **0.3805** | 2,3  2,3 | 3  2 | 3  2 | -  - | -  - | -  - |
| 1\_8\_PE048    2\_8\_PE041 | 0.3816  0.4120  **0.3968** | 3  2,3 | 2  2,3 | 2  2 | -  - | -  - | -  - |
| 1\_9\_PE033 | **0.6280** | 2,3 | 2 | 2 | - | - | - |
| 1\_10\_PE087    2\_10\_PE094 | 0.5402  0.3288  **0.4345** | 2  2 | 2  2 | -  - | 2  - | 2  - | 2  - |
| 1\_11\_PE0144    2\_11\_PE0136 | 0.3625  0.4230  **0.3928** | 3  2,3 | 2,3  2,3 | 2,3  2 | -  - | -  - | -  - |
| 1\_12\_PE0127    2\_12\_PE0123 | 0.7033  0.5357  **0.6195** | 2  2 | 2  2 | 2  - | 2  2 | 2  2,3 | 2  2 |
| 1\_13\_PE050 | **0.1760** | 2,3 | 2 | 2 | - | - | 2 |
| 1\_14\_PE0183    2\_14\_PE0189 | 0.7687  0.7282  **0.7484** | 2  2,3 | 2  3 | -  2 | 2  2,3 | -  - | 2  - |
| 1\_15\_PE0207    2\_15\_PE0213 | 0.2990  0.3834  **0.3412** | -  2 | -  2 | -  2 | -  - | -  - | -  - |
| 1\_17\_PE0171    2\_17\_PE0178 | 0.3323  0.3522  **0.3423** | 2  2 | -  - | -  - | -  - | -  - | -  - |
| 1\_18\_PE0160    2\_18\_PE0163 | 0.3217  0.6110  **0.4663** | 2  2 | 2  2 | 2  2 | 2  2 | 2  2 | 2  2 |
| 1\_19\_PE0232    2\_19\_PE0237 | 0.3158  0.4655  **0.3907** | 2  2 | 2  2 | -  - | -  - | -  - | -  - |
| 1\_20\_PE0219    2\_20\_PE0226 | 0.2547  0.3640  **0.3093** | 2  2 | -  2 | 2  2 | 2  - | -  - | -  - |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Image** | **R1** | **R2** |  | **Image** | **R1** | **R2** |
| 1\_1\_HE0214, 2\_1\_HE0206 | 0.1902  0.2213  **0.2058** | 0.1633  0.2167  **0.1900** |  | 1\_12\_HE0236, 2\_12\_HE0231 | 0.1246  0.1473  **0.1360** | 0.2992  0.3340  **0.3166** |
| 1\_2\_HE0102, 2\_2\_HE0104 | 0.2737  0.1093  **0.1915** | 0.2453  0.0968  **0.1711** |  | 1\_13\_HE076, 2\_13\_HE080 | 0.2373  0.3622  **0.2998** | 0.2717  0.4124  **0.3420** |
| 1\_3\_HE029, 2\_3\_HE033 | 0.1388  0.1975  **0.1682** | 0.1930  0.1687  **0.1808** |  | 1\_14\_HE053, 2\_14\_HE059 | 0.2598  0.4347  **0.3473** | 0.2133  0.3480  **0.2807** |
| 1\_5\_HE0146, 2\_5\_HE0154 | 0.1363  0.1767  **0.1565** | 0.2307  0.2577  **0.2442** |  | 1\_15\_HE0161, 2\_15\_HE0168 | 0.1527  0.1116  **0.1321** | 0.2468  0.2646  **0.2557** |
| 1\_6\_HE016, 2\_6\_HE022 | 0.2260  0.1878  **0.2069** | 0.2460  0.1740  **0.2100** |  | 1\_16\_HE0186, 2\_16\_HE0201 | 0.1480  0.3754  **0.2617** | 0.2057  0.3212  **0.2634** |
| 1\_7\_HE006, 2\_7\_HE011 | 0.1864  0.1066  **0.1465** | 0.2344  0.1174  **0.1759** |  | 1\_17\_HE039, 2\_17\_HE047 | 0.3615  0.2452  **0.3034** | 0.3360  0.2924  **0.3142** |
| 1\_8\_HE0121, 2\_8\_HE0127 | 0.1020  0.3705  **0.2363** | 0.0330  0.3770  **0.2050** |  | 1\_18\_HE0173, 2\_18\_HE0176 | 0.1112  0.1560  **0.1336** | 0.2012  0.2347  **0.2179** |
| 1\_9\_HE0225, 2\_9\_HE0219 | 0.2262  0.2888  **0.2575** | 0.3520  0.3725  **0.3623** |  | 1\_19\_HE0136, 2\_19\_HE0143 | 0.2856  0.1223  **0.2040** | 0.5124  0.2883  **0.4004** |
| 1\_10\_HE088, 2\_10\_HE095 | 0.1075  0.0862  **0.0968** | 0.1308  0.1862  **0.1585** |  | 1\_20\_HE0189, 2\_20\_HE0196 | 0.1748  0.2885  **0.2317** | 0.2060  0.2642  **0.2351** |
| 1\_11\_HE0110, 2\_11\_HE0119 | 0.1598  0.2493  **0.2046** | 0.2472  0.3440  **0.2956** |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Image** | **R1** | **R2** | **MDS-**  **UPDRS** |  | **Image** | **R1** | **R2** | **MDS-**  **UPDRS** |
| 1\_1\_PE022, 2\_1\_PE015 | 0.4870  0.5355  **0.5113** | 0.6672  0.6333  **0.6503** | 0.4167  0.4861  **0.4514** |  | 1\_11\_PE0144, 2\_11\_PE0136 | 0.3625  0.4230  **0.3928** | 0.5173  0.4460  **0.4817** | 0.3333  0.3333  **0.3333** |
| 2\_2\_PE068 | **0.3242** | **0.3802** | **0.2917** |  | 1\_12\_PE0127, 2\_12\_PE0123 | 0.7033  0.5357  **0.6195** | 0.7860  0.4962  **0.6411** | 0.3889  0.4583  **0.4236** |
| 1\_3\_PE081, 2\_3\_PE074 | 0.3464  0.5132  **0.4298** | 0.2422  0.3723  **0.3073** | 0.3472  0.3472  **0.3472** |  | 1\_13\_PE050 | **0.1760** | **0.3420** | **0.3472** |
| 1\_4\_PE0155, 2\_4\_PE0147 | 0.2730  0.3690  **0.3210** | 0.2610  0.3255  **0.2933** | 0.3750  0.3056  **0.3403** |  | 1\_14\_PE0183, 2\_14\_PE0189 | 0.7687  0.7282  **0.7484** | 0.8580  0.5800  **0.7190** | 0.3333  0.3611  **0.3472** |
| 1\_5\_PE0103, 2\_5\_PE0100 | 0.4980  0.4805  **0.4893** | 0.5415  0.4360  **0.4888** | 0.527  0.5278  **0.5278** |  | 1\_15\_PE0207, 2\_15\_PE0213 | 0.2990  0.3834  **0.3412** | 0.3030  0.3426  **0.3228** | 0.1111  0.1667  **0.1389** |
| 1\_6\_PE009, 2\_6\_PE006 | 0.5360  0.9092  **0.7226** | 0.5277  0.5683  **0.5480** | 0.4722  0.4167  **0.4444** |  | 1\_17\_PE0171, 2\_17\_PE0178 | 0.3323  0.3522  **0.3423** | 0.3932  0.3018  **0.3475** | 0.1806  0.1667  **0.1736** |
| 1\_7\_PE0118, 2\_7\_PE0112 | 0.3600  0.4010  **0.3805** | 0.3873  0.3638  **0.3756** | 0.2778  0.3056  **0.2917** |  | 1\_18\_PE0160, 2\_18\_PE0163 | 0.3217  0.6110  **0.4663** | 0.3897  0.6070  **0.4983** | 0.3611  0.4167  **0.3889** |
| 1\_8\_PE048, 2\_8\_PE041 | 0.3816  0.4120  **0.3968** | 0.2864  0.4627  **0.3745** | 0.2778  0.3333  **0.3056** |  | 1\_19\_PE0232, 2\_19\_PE0237 | 0.3158  0.4655  **0.3907** | 0.3585  0.3923  **0.3754** | 0.2083  0.2361  **0.2222** |
| 1\_9\_PE033 | **0.6280** | **0.7940** | **0.3333** |  | 1\_20\_PE0219, 2\_20\_PE0226 | 0.2547  0.3640  **0.3093** | 0.3343  0.3308  **0.3326** | 0.2222  0.2778  **0.2500** |
| 1\_10\_PE087, 2\_10\_PE094 | 0.5402  0.3288  **0.4345** | 0.5640  0.2917  **0.4278** | 0.3056  0.2778  **0.2917** |  |  |  |  |  |