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| **Dataset** | **Algorithm** | **Accuracy**  | **Recall** | **Precision**  | **F1 score** | **Cohen Kappa ratio** | **Remaining weights %** |
| Promoter prediction (PP) | Unpruned | 80 (±8.73) | 78.24 (±20.16) | 76.81 (±14.95) | 76.77 (±17.51) | 0.56 (±0.21) | 100 |
| OBS | 74.37 (±8.99) | 70.05 (±15.88) | 73.9 (±11.62) | 71.55 (±13.05) | 0.46 (±0.18) | 1.79 (±0.48) |
| MWOBS | 79.82 (±9.65) | 81.57 (±11.12) | 77.21 (±13.91) | **79.01 (±11.66)** | 0.58 (±0.2) | 4.55 (±1.4) |
| UOBS | 68.55 (±12.82) | 67.55 (±18.03) | 68 (±21.41) | 66.66 (±17.77) | 0.36 (±0.27) | **1.26 (±0.6)** |
| MP | 69.46 (±15.47) | 75.88 (±18.01) | 69.64 (±18.82) | 70.77 (±15.59) | 0.4 (±0.27) | 8.88 (±0.07) |
| Cardiac arrhythmia (CA) | Unpruned | 71.66 (±4.33) | 54.91 (±10.65) | 74.62 (±16.6) | 62.56 (±10.7) | 0.4 (±0.12) | 100 |
| OBS | 70.07 (±3.51) | 54.08 (±9.5) | 74.83 (±16.57) | 61.12 (±7.88) | 0.38 (±0.09) | 69.63 (±38.47) |
| MWOBS | 71.18 (±6.49) | 60.65 (±10.6) | 70.47 (±12.95) | 64.55 (±10.04) | 0.4 (±0.14) | **55.64 (±41.08)** |
| UOBS | 70.74 (±3.76) | 55.95 (±10.83) | 73.2 (±15.83) | 62.22 (±9.16) | 0.39 (±0.1) | 67.55 (±36.29) |
| MP | 72.33 (±7.83) | 64.02 (±9.21) | 71.61 (±16.84) | **66.98 (±11.91)** | 0.43 (±0.17) | 91.97 (±0) |
| Breast cancer (BC) | Unpruned | 96.62 (±1.98) | 96.99 (±2.77) | 94.09 (±4.69) | **95.42 (±2.47)** | 0.93 (±0.04) | 100 |
| OBS | 96.18 (±2.3) | 95.76 (±3.23) | 93.82 (±5.62) | 94.66 (±3.24) | 0.92 (±0.05) | **10.99 (±5.43)** |
| MWOBS | 96.33 (±2.39) | 96.48 (±2.85) | 93.53 (±5.54) | 94.89 (±3.38) | 0.92 (±0.05) | 15.23 (±4.38) |
| UOBS | 96.04 (±2.38) | 95.76 (±3.23) | 93.51 (±5.54) | 94.51 (±3.25) | 0.91 (±0.05) | 11.26 (±5.64) |
| MP | 96.62 (±2.08) | 96.46 (±3.78) | 94.6 (±4.46) | **95.41 (±2.71)** | 0.93 (±0.05) | 83.43 (±3.33) |
| Wisconsin diag. breast cancer (WDBC) | Unpruned | 97.01 (±2.09) | 98.47 (±2.02) | 96.89 (±2.67) | **97.64 (±1.59)** | 0.93 (±0.05) | 100 |
| OBS | 91.74 (±13.17) | 97.49 (±3.16) | 92.25 (±13.42) | 94.09 (±8.55) | 0.82 (±0.28) | 0.98 (±0.36) |
| MWOBS | 96.48 (±2.5) | 98.62 (±1.39) | 95.85 (±4.17) | 97.16 (±2.08) | 0.92 (±0.05) | 5.36 (±1.56) |
| UOBS | 95.77 (±1.96) | 97.45 (±2.79) | 96.07 (±3.19) | 96.68 (±1.5) | 0.91 (±0.04) | **3.58 (±3.19)** |
| MP | 97.01 (±1.94) | 99.24 (±1.16) | 96.09 (±3.4) | 97.6 (±1.61) | 0.93 (±0.04) | 93.91 (±0) |
| Heart disease (HD) | Unpruned | 78 (±8.84) | 77.24 (±8.73) | 75.82 (±13.87) | **75.87 (±9.23)** | 0.55 (±0.17) | 100 |
| OBS | 76.33 (±7.32) | 74.17 (±6.72) | 73.97 (±13.24) | 73.55 (±8.44) | 0.51 (±0.13) | **41 (±3.25)** |
| MWOBS | 75.33 (±7.83) | 75.23 (±12.14) | 71.58 (±13) | 72.62 (±10.18) | 0.49 (±0.15) | 47.67 (±7) |
| UOBS | 75.31 (±9.87) | 75.64 (±12.21) | 72.01 (±15.62) | 72.89 (±11.25) | 0.5 (±0.19) | 51.55 (±7.01) |
| MP | 78.69 (±9) | 76.09 (±10.31) | 76.82 (±14) | **75.86 (±10.19)** | 0.56 (±0.18) | 98.89 (±0) |
| Prostate cancer (PC) | Unpruned | 90.09 (±6.33) | 81.42 (±17.79) | 96.9 (±6.21) | 86.96 (±10.15) | 0.78 (±0.14) | 100 |
| OBS | 92 (±7.48) | 87.17 (±13.19) | 94.64 (±10.74) | **89.86 (±8.99)** | 0.83 (±0.16) | **0.06 (±0.01)** |
| MWOBS | 90.09 (±8.95) | 89.17 (±13.46) | 90.05 (±13.81) | 88.46 (±10.04) | 0.79 (±0.18) | 0.96 (±0.65) |
| UOBS | - | - | - | - | - | - |
| MP | 90.09 (±8.95) | 85.42 (±17) | 92.9 (±12.56) | 87.56 (±12.1) | 0.78 (±0.19) | 17.89 (±0.33) |
| Synthetic Madelon (SM) | Unpruned | 60.53 (±4) | 60.39 (±5.21) | 60.5 (±4.78) | **60.38 (±4.55)** | 0.21 (±0.08) | 100 |
| OBS | 60.13 (±4.39) | 59.58 (±6.75) | 60.07 (±5.6) | 59.71 (±5.69) | 0.2 (±0.09) | 91.21 (±6.16) |
| MWOBS | 59.93 (±4.54) | 58.84 (±6.05) | 60.16 (±4.09) | 59.39 (±4.57) | 0.2 (±0.09) | **86.9 (±9.42)** |
| UOBS | 59.73 (±3.81) | 59.07 (±5.34) | 59.74 (±5.14) | 59.33 (±4.81) | 0.19 (±0.08) | 98.41 (±2.87) |
| MP | 58.28 (±4.15) | 55.39 (±19.82) | 58.03 (±5.86) | 54.03 (±17.97) | 0.16 (±0.09) | 94.57 (±0.24) |
| TFTF combinations (TFTF) | Unpruned | 74.13 (±4.97) | 69.18 (±7.75) | 76.78 (±4.32) | **72.51 (±5.06)** | 0.48 (±0.1) | 100 |
| OBS | 69.23 (±4.81) | 63.28 (±11.41) | 71 (±4.5) | 66.51 (±7.91) | 0.38 (±0.1) | 96.32 (±4.04) |
| MWOBS | 71.31 (±5.41) | 65.39 (±9.23) | 74.26 (±5.97) | 69.12 (±5.99) | 0.43 (±0.11) | 96.6 (±5.45) |
| UOBS | 71.49 (±4.87) | 67.57 (±8.49) | 72.68 (±4.89) | 69.88 (±6.33) | 0.43 (±0.1) | **84.91 (±3.9)** |
| MP | 62.53 (±6.77) | 52.47 (±24.04) | 60.12 (±23.47) | 53.66 (±21.32) | 0.26 (±0.11) | 96.39 (±2.34) |
| AID886 compounds (AID) | Unpruned | 72.99 (±1.28) | 77.72 (±1.5) | 81.42 (±1.6) | 79.51 (±0.96) | 0.4 (±0.03) | 100 |
| OBS | 72.85 (±1.53) | 76.9 (±2.56) | 81.78 (±1.51) | 79.23 (±1.37) | 0.4 (±0.03) | 95.35 (±7.96) |
| MWOBS | 73.24 (±1.51) | 78.2 (±2.42) | 81.43 (±1.77) | **79.75 (±1.31)** | 0.4 (±0.03) | **87.87 (±15.44)** |
| UOBS | 73.16 (±1.48) | 77.94 (±1.74) | 81.49 (±1.89) | 79.65 (±1.19) | 0.4 (±0.03) | 97.89 (±4.02) |
| MP | 69.15 (±1.09) | 79.92 (±1.8) | 75.76 (±1.98) | 77.74 (±0.7) | 0.28 (±0.03) | 93.21 (±4.72) |
| Urban land cover (ULC) | Unpruned | 77.28 (±8.96) | 77.28 (±8.96) | 83.34 (±9.16) | **77.29 (±9.26)** | 0.73 (±0.1) | 100 |
| OBS | 63.49 (±12.7) | 63.49 (±12.7) | 72.14 (±16.56) | 63.12 (±13.19) | 0.58 (±0.14) | **6.11 (±1.66)** |
| MWOBS | 64.63 (±11.83) | 64.63 (±11.83) | 69.02 (±11.95) | 63.64 (±11.4) | 0.59 (±0.13) | 9.95 (±3.44) |
| UOBS | 67.65 (±9.64) | 67.65 (±9.64) | 73.6 (±9.43) | 67.5 (±8.61) | 0.62 (±0.11) | 21.68 (±2.06) |
| MP | 77.28 (±10.14) | 77.28 (±10.14) | 83.31 (±9.72) | 77.26 (±9.75) | 0.73 (±0.12) | 65.99 (±0) |
| Sensorless drive diagnosis (SDD) | Unpruned | 93.02 (±0.56) | 93.02 (±0.56) | 93.24 (±0.5) | **92.91 (±0.59)** | 0.92 (±0.01) | 100 |
| OBS | 89.7 (±0.76) | 89.7 (±0.76) | 89.93 (±0.78) | 89.68 (±0.78) | 0.89 (±0.01) | **4 (±0.71)** |
| MWOBS | 89.7 (±0.82) | 89.7 (±0.82) | 89.93 (±0.81) | 89.68 (±0.83) | 0.89 (±0.01) | 7.17 (±0.7) |
| UOBS | 88.68 (±2.06) | 88.68 (±2.06) | 89.55 (±1.61) | 87.95 (±2.76) | 0.88 (±0.02) | 9.29 (±1.32) |
| MP | 93.64 (±0.87) | 93.64 (±0.87) | 93.75 (±0.84) | 93.56 (±0.88) | 0.93 (±0.01) | 98.98 (±0) |
| MNIST digits (MD) | Unpruned | 90.7 (±0.58) | 90.7 (±0.58) | 90.69 (±0.58) | **90.67 (±0.58)** | 0.9 (±0.01) | 100 |
| OBS | 89.82 (±0.90) | 89.82 (±0.90) | 89.844 (±0.92) | 89.804 (±0.91) | 0.886 (±0.01) | **18.34 (±3.71)** |
| MWOBS | 90.19 (±0.64) | 90.19 (±0.64) | 90.21 (±0.66) | 90.17 (±0.65) | 0.89 (±0.01) | 29.69 (±1.87) |
| UOBS | 87.37 (±0.83) | 87.37 (±0.83) | 87.41 (±0.83) | 87.34 (±0.84) | 0.86 (±0.01) | 97.82 (±3.96) |
| MP | 90.83 (±0.47) | 90.83 (±0.47) | 90.82 (±0.47) | 90.81 (±0.47) | 0.9 (±0.01) | 99 (±0) |
| Human activity recognition (HAR) | Unpruned | 95.18 (±0.71) | 95.18 (±0.71) | 95.22 (±0.69) | 95.17 (±0.71) | 0.94 (±0.01) | 100 (±0) |
| OBS | 95.95 (±0.98) | 95.95 (±0.98) | 96.01 (±0.92) | 95.94 (±1) | 0.95 (±0.01) | **3.55 (±0.82)** |
| MWOBS | 96.11 (±0.47) | 96.11 (±0.47) | 96.15 (±0.47) | 96.11 (±0.47) | 0.95 (±0.01) | 4.87 (±0.82) |
| UOBS | 96.5 (±0.57) | 96.5 (±0.57) | 96.55 (±0.56) | **96.51 (±0.57)** | 0.96 (±0.01) | 13.32 (±2.21) |
| MP | 95.36 (±0.49) | 95.36 (±0.49) | 95.38 (±0.48) | 95.36 (±0.49) | 0.94 (±0.01) | 88.99 (±0) |
| Epileptic seizure recognition (ESR) | Unpruned | 96.83 (±0.39) | 87.96 (±1.22) | 95.88 (±1.41) | 91.74 (±0.74) | 0.9 (±0.01) | 100 (±0) |
| OBS | 96.3 (±0.45) | 86.36 (±2.18) | 94.74 (±1.38) | 90.33 (±0.89) | 0.88 (±0.01) | **9.09 (±0.91)** |
| MWOBS | 96.41 (±0.42) | 86.34 (±1.86) | 95.34 (±1.49) | 90.59 (±0.75) | 0.88 (±0.01) | 12 (±1.19) |
| UOBS | 96.01 (±0.48) | 84.58 (±1.36) | 94.96 (±0.91) | 89.46 (±0.9) | 0.87 (±0.01) | 26.66 (±0) |
| MP | 94.57 (±0.65) | 94.57 (±0.65) | 94.6 (±0.65) | 94.35 (±0.71) | 0.82 (±0.02) | 89.98 (±0) |
| LSVT voice rehabilitation (LSVT) | Unpruned | 80.32 (±7.75) | 79.66 (±9.4) | 89.58 (±14.32) | 83.26 (±7.69) | 0.55 (±0.16) | 100 (±0) |
| OBS | 74.68 (±5.45) | 72.08 (±7.19) | 89.38 (±13.8) | 78.6 (±4.12) | 0.44 (±0.18) | **2.38 (±1.45)** |
| MWOBS | 81.03 (±13.54) | 85.42 (±9.34) | 85.79 (±16.95) | 84.7 (±11.21) | 0.54 (±0.34) | 4.63 (±1.99) |
| UOBS | 81.15 (±9.64) | 82.21 (±19.17) | 89.55 (±9.58) | **83.67 (±11.01)** | 0.57 (±0.19) | 12 (±4.88) |
| MP | 77.05 (±9.38) | 80.34 (±9.9) | 85.62 (±16.86) | 81.38 (±8.84) | 0.48 (±0.19) | 98.99 (±0) |
| Default credit cards (DCC) | Unpruned | 87.07 (±1.22) | 79.24 (±2.04) | 93.89 (±1.05) | **85.94 (±1.58)** | 0.74 (±0.03) | 100 (±0) |
| OBS | 87 (±1.28) | 79.32 (±2.17) | 93.66 (±1.16) | 85.89 (±1.67) | 0.74 (±0.03) | 91.8 (±5.26) |
| MWOBS | 86.97 (±1.25) | 79.17 (±2.01) | 93.74 (±1.17) | 85.84 (±1.61) | 0.74 (±0.03) | **91.72 (±4.44)** |
| UOBS | 86.95 (±1.35) | 79.17 (±2.08) | 93.7 (±1.31) | 85.82 (±1.7) | 0.74 (±0.03) | 99.85 (±0.19) |
| MP | 86.71 (±1.3) | 77.68 (±2.46) | 94.75 (±1.11) | 85.35 (±1.75) | 0.74 (±0.03) | 88.89 (±0) |