**128**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Acc, validation (%)** | **Sensitivity, validation (%)** | **Specificity, validation (%)** | **PPV, validation (%)** | **F1 score, validation** | **AUC, validation** | **Training time (sec)** |
| **Lin SVM** | 99.53 | 100 | 99.07 | 99.07 | 0.9953 | 0.99823 | 2.6248 |
| **Quad SVM** | 99.58 | 100 | 99.17 | 99.18 | 0.9959 | 0.99914 | 2.1650 |
| **Cubic SVM** | 99.43 | 100 | 98.86 | 98.87 | 0.9943 | 0.99932 | 2.2100 |
| **RBF SVM** | 99.79 | 100 | 99.59 | 99.59 | 0.9979 | 1.0000 | 2.4742 |
| **3 kNN** | 95.48 | 100 | 90.98 | 91.71 | 0.9567 | 0.97407 | 3.9594 |
| **5 kNN** | 94.96 | 100 | 89.94 | 90.84 | 0.9520 | 0.97666 | 3.8226 |
| **7 kNN** | 94.55 | 100 | 89.11 | 90.16 | 0.9483 | 0.97822 | 3.7401 |
| **9 kNN** | 94.24 | 100 | 88.49 | 89.66 | 0.9455 | 0.98081 | 3.7551 |
| **RF 5** | 95.28 | 96.47 | 94.09 | 94.21 | 0.9533 | 0.96115 | 0.94945 |
| **RF 10** | 97.09 | 98.96 | 95.23 | 95.39 | 0.9714 | 0.96844 | 0.95266 |
| **RF 20** | 98.39 | 99.17 | 97.61 | 97.65 | 0.9840 | 0.98441 | 1.3013 |
| **RF 30** | 98.44 | 99.17 | 97.72 | 97.75 | 0.9845 | 0.98596 | 1.3041 |
| **RF 40** | 98.44 | 99.17 | 97.72 | 97.75 | 0.9845 | 0.98596 | 1.3315 |
| **RF 50** | 98.44 | 99.17 | 97.72 | 97.75 | 0.9845 | 0.98596 | 1.2805 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Acc, testing (%)** | **Sensitivity, testing (%)** | **Specificity, testing (%)** | **PPV, testing (%)** | **F1 score, testing** | **AUC, testing** |
| **Lin SVM** | 79.49 | 61.73 | 85.71 | 60.24 | 0.6098 | 0.7977 |
| **Quad SVM** | 81.41 | 67.90 | 86.15 | 63.22 | 0.6548 | 0.8285 |
| **Cubic SVM** | 79.49 | 59.26 | 86.58 | 60.76 | 0.6000 | 0.8086 |
| **RBF SVM** | 81.41 | 28.40 | 100 | 100 | 0.4423 | 0.7662 |
| **3 kNN** | 54.81 | 92.59 | 41.56 | 35.71 | 0.5155 | 0.7346 |
| **5 kNN** | 51.60 | 93.83 | 36.80 | 34.23 | 0.5017 | 0.7503 |
| **7 kNN** | 49.68 | 95.06 | 33.77 | 33.48 | 0.4952 | 0.7865 |
| **9 kNN** | 49.04 | 96.30 | 32.47 | 33.33 | 0.4952 | 0.8060 |
| **RF 5** | 78.53 | 19.75 | 99.13 | 88.89 | 0.3232 | 0.6063 |
| **RF 10** | 67.31 | 24.69 | 82.25 | 32.79 | 0.2817 | 0.5014 |
| **RF 20** | 63.46 | 12.35 | 81.39 | 18.87 | 0.1493 | 0.5884 |
| **RF 30** | 63.14 | 11.11 | 81.39 | 17.31 | 0.1353 | 0.5878 |
| **RF 40** | 63.14 | 11.11 | 81.39 | 17.31 | 0.1353 | 0.5878 |
| **RF 50** | 63.14 | 11.11 | 81.39 | 17.31 | 0.1353 | 0.5878 |

**60**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Acc, validation (%)** | **Sensitivity, validation (%)** | **Specificity, validation (%)** | **PPV, validation (%)** | **F1 score, validation** | **AUC, validation** | **Training time (sec)** |
| **Lin SVM** | 99.64 | 100 | 99.28 | 99.29 | 0.9964 | 0.99932 | 7.2947 |
| **Quad SVM** | 99.93 | 100 | 99.86 | 99.86 | 0.9993 | 1.0000 | 7.7774 |
| **Cubic SVM** | 99.88 | 100 | 99.76 | 99.76 | 0.9988 | 1.0000 | 8.2910 |
| **RBF SVM** | 99.90 | 100 | 99.81 | 99.81 | 0.9990 | 1.0000 | 9.7505 |
| **3 kNN** | 98.15 | 100 | 96.30 | 96.45 | 0.9819 | 0.99303 | 15.719 |
| **5 kNN** | 97.29 | 100 | 94.57 | 94.87 | 0.9737 | 0.99399 | 15.634 |
| **7 kNN** | 96.50 | 100 | 92.98 | 93.47 | 0.9662 | 0.99423 | 15.553 |
| **9 kNN** | 95.80 | 100 | 91.59 | 92.27 | 0.9598 | 0.99471 | 15.772 |
| **RF 5** | 95.25 | 99.28 | 91.20 | 91.89 | 0.9544 | 0.95595 | 1.8480 |
| **RF 10** | 97.46 | 99.47 | 95.43 | 95.63 | 0.9751 | 0.97144 | 2.0811 |
| **RF 20** | 98.90 | 99.57 | 98.22 | 98.25 | 0.9891 | 0.98625 | 3.2012 |
| **RF 30** | 99.18 | 99.57 | 98.80 | 98.81 | 0.9919 | 0.99161 | 3.8344 |
| **RF 40** | 99.18 | 99.57 | 98.80 | 98.81 | 0.9919 | 0.99161 | 3.8651 |
| **RF 50** | 99.18 | 99.57 | 98.80 | 98.81 | 0.9919 | 0.99161 | 3.8342 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Acc, testing (%)** | **Sensitivity, testing (%)** | **Specificity, testing (%)** | **PPV, testing (%)** | **F1 score, testing** | **AUC, testing** |
| **Lin SVM** | 79.56 | 56.82 | 87.50 | 61.35 | 0.5900 | 0.7662 |
| **Quad SVM** | 81.47 | 47.73 | 93.25 | 71.19 | 0.5714 | 0.6979 |
| **Cubic SVM** | 81.47 | 44.32 | 94.44 | 73.58 | 0.5532 | 0.6917 |
| **RBF SVM** | 82.94 | 34.66 | 99.80 | 98.39 | 0.5126 | 0.8300 |
| **3 kNN** | 73.53 | 86.36 | 69.05 | 49.35 | 0.6281 | 0.8093 |
| **5 kNN** | 73.24 | 90.34 | 67.26 | 49.07 | 0.6360 | 0.8231 |
| **7 kNN** | 72.94 | 94.32 | 65.48 | 48.82 | 0.6434 | 0.8314 |
| **9 kNN** | 71.62 | 96.02 | 63.10 | 47.61 | 0.6365 | 0.8398 |
| **RF 5** | 81.62 | 42.05 | 95.44 | 76.29 | 0.5421 | 0.7264 |
| **RF 10** | 76.32 | 25.00 | 94.25 | 60.27 | 0.3534 | 0.4745 |
| **RF 20** | 75.88 | 21.02 | 95.04 | 59.68 | 0.3109 | 0.5796 |
| **RF 30** | 75.74 | 20.45 | 95.04 | 59.02 | 0.3038 | 0.5778 |
| **RF 40** | 75.74 | 20.45 | 95.04 | 59.02 | 0.3038 | 0.5778 |
| **RF 50** | 75.74 | 20.45 | 95.04 | 59.02 | 0.3038 | 0.5778 |

**20**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Acc, validation (%)** | **Sensitivity, validation (%)** | **Specificity, validation (%)** | **PPV, validation (%)** | **F1 score, validation** | **AUC, validation** | **Training time (sec)** |
| **Lin SVM** | 99.86 | 99.90 | 99.81 | 99.81 | 0.9986 | 0.99981 | 34.368 |
| **Quad SVM** | 99.94 | 99.97 | 99.90 | 99.90 | 0.9994 | 1.0000 | 31.789 |
| **Cubic SVM** | 99.94 | 99.97 | 99.92 | 99.92 | 0.9994 | 0.99999 | 34.564 |
| **RBF SVM** | 99.90 | 99.87 | 99.94 | 99.94 | 0.9990 | 0.99997 | 45.640 |
| **3 kNN** | 99.53 | 99.95 | 99.10 | 99.11 | 0.9953 | 0.99783 | 132.08 |
| **5 kNN** | 99.34 | 99.95 | 98.73 | 98.75 | 0.9935 | 0.99823 | 140.88 |
| **7 kNN** | 99.09 | 99.95 | 98.22 | 98.26 | 0.9908 | 0.99839 | 141.90 |
| **9 kNN** | 98.88 | 99.95 | 97.80 | 97.86 | 0.9889 | 0.99854 | 141.76 |
| **RF 5** | 94.71 | 96.26 | 93.16 | 93.39 | 0.9480 | 0.97326 | 5.3628 |
| **RF 10** | 96.99 | 97.13 | 96.86 | 96.88 | 0.9700 | 0.98612 | 6.5266 |
| **RF 20** | 98.61 | 99.51 | 97.71 | 97.76 | 0.9862 | 0.99041 | 7.5688 |
| **RF 30** | 99.02 | 99.51 | 98.54 | 98.56 | 0.9903 | 0.99807 | 8.8550 |
| **RF 40** | 99.28 | 99.57 | 98.99 | 99.00 | 0.9928 | 0.99052 | 10.285 |
| **RF 50** | 99.40 | 99.58 | 99.21 | 99.22 | 0.9940 | 0.99417 | 10.978 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Acc, testing (%)** | **Sensitivity, testing (%)** | **Specificity, testing (%)** | **PPV, testing (%)** | **F1 score, testing** | **AUC, testing** |
| **Lin SVM** | 90.09 | 67.98 | 97.72 | 91.16 | 0.7789 | 0.9703 |
| **Quad SVM** | 88.32 | 53.36 | 98.11 | 88.80 | 0.6667 | 0.9712 |
| **Cubic SVM** | 87.48 | 56.12 | 98.31 | 91.96 | 0.6971 | 0.9543 |
| **RBF SVM** | 81.83 | 29.19 | 100 | 100 | 0.4519 | 0.9443 |
| **3 kNN** | 76.07 | 78.53 | 75.23 | 52.26 | 0.6275 | 0.8063 |
| **5 kNN** | 75.21 | 83.99 | 72.17 | 51.03 | 0.6349 | 0.8337 |
| **7 kNN** | 75.06 | 87.386 | 70.81 | 50.82 | 0.6427 | 0.8565 |
| **9 kNN** | 74.35 | 88.89 | 69.31 | 50.00 | 0.6400 | 0.8648 |
| **RF 5** | 84.15 | 57.06 | 93.50 | 75.19 | 0.6488 | 0.7890 |
| **RF 10** | 79.89 | 36.72 | 94.80 | 70.91 | 0.4839 | 0.7830 |
| **RF 20** | 83.91 | 48.40 | 96.16 | 81.33 | 0.6068 | 0.7606 |
| **RF 30** | 79.31 | 35.41 | 94.47 | 68.86 | 0.4677 | 0.5707 |
| **RF 40** | 79.51 | 34.65 | 94.99 | 70.50 | 0.4646 | 0.4875 |
| **RF 50** | 78.83 | 32.96 | 94.67 | 68.09 | 0.4442 | 0.6382 |