## Class-wise Metrics for Random Forest - MFPT

|  |  |  |  |
| --- | --- | --- | --- |
| Class Label | Recall | Precision | F1-Score |
| Class 0 | 100.000000 | 40.685462 | 57.838900 |
| Class 1 | 0.000000 | 0.000000 | 0.000000 |
| Class 2 | 0.000000 | 0.000000 | 0.000000 |
| Class 3 | 0.000000 | 0.000000 | 0.000000 |
| Class 4 | 0.000000 | 0.000000 | 0.000000 |
| Class 5 | 0.000000 | 0.000000 | 0.000000 |
| Class 6 | 0.000000 | 0.000000 | 0.000000 |
| Class 7 | 100.000000 | 100.000000 | 100.000000 |
| Class 8 | 100.000000 | 100.000000 | 100.000000 |
| Class 9 | 100.000000 | 100.000000 | 100.000000 |
| Average | 40.000000 | 34.068546 | 35.783890 |

## Class-wise Metrics for Gradient Boosting - MFPT

|  |  |  |  |
| --- | --- | --- | --- |
| Class Label | Recall | Precision | F1-Score |
| Class 0 | 99.728261 | 55.563967 | 71.366067 |
| Class 1 | 25.263158 | 42.857143 | 31.788079 |
| Class 2 | 7.303371 | 34.210526 | 12.037037 |
| Class 3 | 27.083333 | 37.142857 | 31.325301 |
| Class 4 | 1.162791 | 11.764706 | 2.116402 |
| Class 5 | 26.256983 | 35.338346 | 30.128205 |
| Class 6 | 3.086420 | 10.416667 | 4.761905 |
| Class 7 | 100.000000 | 100.000000 | 100.000000 |
| Class 8 | 100.000000 | 100.000000 | 100.000000 |
| Class 9 | 100.000000 | 100.000000 | 100.000000 |
| Average | 48.988432 | 52.729421 | 48.352300 |

## Class-wise Metrics for RNN - MFPT

|  |  |  |  |
| --- | --- | --- | --- |
| Class Label | Recall | Precision | F1-Score |
| Class 0 | 98.641304 | 97.580645 | 98.108108 |
| Class 1 | 48.947368 | 44.285714 | 46.500000 |
| Class 2 | 33.146067 | 33.333333 | 33.239437 |
| Class 3 | 48.437500 | 36.328125 | 41.517857 |
| Class 4 | 30.232558 | 26.943005 | 28.493151 |
| Class 5 | 26.256983 | 44.339623 | 32.982456 |
| Class 6 | 17.283951 | 25.454545 | 20.588235 |
| Class 7 | 100.000000 | 98.746082 | 99.369085 |
| Class 8 | 100.000000 | 100.000000 | 100.000000 |
| Class 9 | 100.000000 | 98.474576 | 99.231426 |
| Average | 60.294573 | 60.548565 | 60.002976 |

## Class-wise Metrics for CNN 1D - MFPT

|  |  |  |  |
| --- | --- | --- | --- |
| Class Label | Recall | Precision | F1-Score |
| Class 0 | 100.000000 | 100.000000 | 100.000000 |
| Class 1 | 99.473684 | 95.454545 | 97.422680 |
| Class 2 | 100.000000 | 98.888889 | 99.441341 |
| Class 3 | 90.625000 | 95.081967 | 92.800000 |
| Class 4 | 98.255814 | 94.413408 | 96.296296 |
| Class 5 | 95.530726 | 95.000000 | 95.264624 |
| Class 6 | 93.827160 | 99.346405 | 96.507937 |
| Class 7 | 100.000000 | 100.000000 | 100.000000 |
| Class 8 | 100.000000 | 100.000000 | 100.000000 |
| Class 9 | 100.000000 | 100.000000 | 100.000000 |
| Average | 97.771238 | 97.818521 | 97.773288 |

## Class-wise Metrics for CNN 2D - MFPT

|  |  |  |  |
| --- | --- | --- | --- |
| Class Label | Recall | Precision | F1-Score |
| Class 0 | 99.728261 | 100.000000 | 99.863946 |
| Class 1 | 95.789474 | 95.789474 | 95.789474 |
| Class 2 | 98.314607 | 96.685083 | 97.493036 |
| Class 3 | 80.208333 | 71.962617 | 75.862069 |
| Class 4 | 100.000000 | 83.091787 | 90.765172 |
| Class 5 | 67.039106 | 81.632653 | 73.619632 |
| Class 6 | 77.160494 | 91.911765 | 83.892617 |
| Class 7 | 100.000000 | 100.000000 | 100.000000 |
| Class 8 | 100.000000 | 100.000000 | 100.000000 |
| Class 9 | 100.000000 | 100.000000 | 100.000000 |
| Average | 91.824027 | 92.107338 | 91.728595 |

## Class-wise Metrics for LSTM - MFPT

|  |  |  |  |
| --- | --- | --- | --- |
| Class Label | Recall | Precision | F1-Score |
| Class 0 | 99.728261 | 99.592944 | 99.660557 |
| Class 1 | 97.894737 | 78.813559 | 87.323944 |
| Class 2 | 94.943820 | 87.564767 | 91.105121 |
| Class 3 | 46.354167 | 54.268293 | 50.000000 |
| Class 4 | 88.953488 | 85.474860 | 87.179487 |
| Class 5 | 59.776536 | 61.494253 | 60.623229 |
| Class 6 | 71.604938 | 92.063492 | 80.555556 |
| Class 7 | 100.000000 | 100.000000 | 100.000000 |
| Class 8 | 100.000000 | 100.000000 | 100.000000 |
| Class 9 | 100.000000 | 100.000000 | 100.000000 |
| Average | 85.925595 | 85.927217 | 85.644789 |

## Class-wise Metrics for SVM - MFPT

|  |  |  |  |
| --- | --- | --- | --- |
| Class Label | Recall | Precision | F1-Score |
| Class 0 | 97.554348 | 97.554348 | 97.554348 |
| Class 1 | 50.000000 | 45.893720 | 47.858942 |
| Class 2 | 14.606742 | 21.311475 | 17.333333 |
| Class 3 | 44.791667 | 36.909871 | 40.470588 |
| Class 4 | 31.976744 | 32.163743 | 32.069971 |
| Class 5 | 27.932961 | 31.250000 | 29.498525 |
| Class 6 | 27.777778 | 25.000000 | 26.315789 |
| Class 7 | 100.000000 | 100.000000 | 100.000000 |
| Class 8 | 100.000000 | 100.000000 | 100.000000 |
| Class 9 | 100.000000 | 100.000000 | 100.000000 |
| Average | 59.464024 | 59.008316 | 59.110150 |

## Class-wise Metrics for Voting Classifier - MFPT

|  |  |  |  |
| --- | --- | --- | --- |
| Class Label | Recall | Precision | F1-Score |
| Class 0 | 100.000000 | 96.587927 | 98.264352 |
| Class 1 | 77.368421 | 71.707317 | 74.430380 |
| Class 2 | 72.471910 | 77.710843 | 75.000000 |
| Class 3 | 55.208333 | 57.297297 | 56.233422 |
| Class 4 | 76.162791 | 68.229167 | 71.978022 |
| Class 5 | 54.189944 | 62.580645 | 58.083832 |
| Class 6 | 68.518519 | 77.083333 | 72.549020 |
| Class 7 | 100.000000 | 100.000000 | 100.000000 |
| Class 8 | 100.000000 | 100.000000 | 100.000000 |
| Class 9 | 100.000000 | 100.000000 | 100.000000 |
| Average | 80.391992 | 81.119653 | 80.653903 |

## Overall Performance Metrics for Random Forest - MFPT

|  |  |
| --- | --- |
| Metric | Value |
| Train Accuracy | 74.072906 |
| Test Accuracy | 74.512295 |
| Average Recall | 38.860108 |
| Average Precision | 27.097491 |
| Average F1-Score | 30.645872 |
| ROC AUC | 0.762636 |

## Overall Performance Metrics for Gradient Boosting - MFPT

|  |  |
| --- | --- |
| Metric | Value |
| Train Accuracy | 77.709139 |
| Test Accuracy | 76.801451 |
| Average Recall | 48.988432 |
| Average Precision | 52.729421 |
| Average F1-Score | 48.352300 |
| ROC AUC | 0.908348 |

## Overall Performance Metrics for RNN - MFPT

|  |  |
| --- | --- |
| Metric | Value |
| Train Accuracy | 85.756605 |
| Test Accuracy | 78.105311 |
| Average Recall | 60.294573 |
| Average Precision | 60.548565 |
| Average F1-Score | 60.002976 |
| ROC AUC | 0.944175 |

## Overall Performance Metrics for CNN 1D - MFPT

|  |  |
| --- | --- |
| Metric | Value |
| Train Accuracy | 94.735286 |
| Test Accuracy | 92.517073 |
| Average Recall | 97.771238 |
| Average Precision | 97.818521 |
| Average F1-Score | 97.773288 |
| ROC AUC | 0.990545 |

## Overall Performance Metrics for CNN 2D - MFPT

|  |  |
| --- | --- |
| Metric | Value |
| Train Accuracy | 96.184694 |
| Test Accuracy | 95.914692 |
| Average Recall | 92.448942 |
| Average Precision | 92.605419 |
| Average F1-Score | 92.492617 |
| ROC AUC | 0.999397 |

## Overall Performance Metrics for LSTM - MFPT

|  |  |
| --- | --- |
| Metric | Value |
| Train Accuracy | 93.671048 |
| Test Accuracy | 92.340040 |
| Average Recall | 85.925595 |
| Average Precision | 85.927217 |
| Average F1-Score | 85.644789 |
| ROC AUC | 0.995255 |

## Overall Performance Metrics for SVM - MFPT

|  |  |
| --- | --- |
| Metric | Value |
| Train Accuracy | 100.000000 |
| Test Accuracy | 76.419345 |
| Average Recall | 59.464024 |
| Average Precision | 59.008316 |
| Average F1-Score | 59.110150 |
| ROC AUC | 0.982900 |

## Overall Performance Metrics for Voting Classifier - MFPT

|  |  |
| --- | --- |
| Metric | Value |
| Train Accuracy | 100.000000 |
| Test Accuracy | 96.764103 |
| Average Recall | 80.391992 |
| Average Precision | 81.119653 |
| Average F1-Score | 80.653903 |
| ROC AUC | 0.994271 |