|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Algorithms**  | **classes** | **Accuracy**  | **Acc-avr** | **Precision** | **Precision-av** | **Recall** | **Recall-av** | **F1 score** | **F1 score-av** |
| **CNN1** | **Class1** | **99.88%** | **99.90%** | **99.4%** | **99.88%** | **100.0%** | **99.90%** | **99.7%** | **99.89%** |
| **Class2** | **100.00%** | **100.0%** | **100.0%** | **100.0%** |
| **Class3** | **99.79%** | **99.09%** | **99.85%** | **99.47%** |
| **Class4** | **99.95%** | **99.92%** | **99.85%** | **99.88%** |
| **Class5** | **99.71%** | **99.92%** | **98.66%** | **99.29%** |
| **CNN2** | **Class1** | **99.39%** | **99.45%** | **97.07%** | **98.68%** | **100.00%** | **98.62%** | **98.51%** | **98.62%** |
| **Class2** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |
| **Class3** | **99.89%** | **99.62%** | **99.85%** | **99.73%** |
| **Class4** | **98.83%** | **99.92%** | **94.15%** | **96.95%** |
| **Class5** | **99.15%** | **96.80%** | **99.11%** | **97.94%** |
| **VGG16** | **Class1** | **99.88%** | **99.57%** | **99.40%** | **98.99%** | **100.00%** | **98.88%** | **99.70%** | **98.92%** |
| **Class2** | **99.25%** | **96.62%** | **100.00%** | **98.28%** |
| **Class3** | **99.79%** | **99.09%** | **99.85%** | **99.47%** |
| **Class4** | **99.95%** | **99.92%** | **99.85%** | **99.88%** |
| **Class5** | **98.96%** | **99.92%** | **94.73%** | **97.25%** |
| **CNN1&SVM** | **Class1** | **99.88%** | **99.57%** | **99.40%** | **98.99** | **100.00%** | **98.88%** | **99.70%** | **98.92%** |
| **Class2** | **99.25%** | **96.62%** | **100.00%** | **98.28%** |
| **Class3** | **99.79%** | **99.09%** | **99.85%** | **99.47%** |
| **Class4** | **99.95%** | **99.92%** | **99.85%** | **99.88%** |
| **Class5** | **98.96%** | **99.92%** | **94.73%** | **97.25%** |
| **CNN1&RF** | **Class1** | **99.85%** | **99.81%** | **99.40%** | **99.06%** | **100.00%** | **97.31%** | **99.70%** | **98.90%** |
| **Class2** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |
| **Class3** | **99.87%** | **99.62%** | **99.85%** | **99.73%** |
| **Class4** | **99.58%** | **96.97%** | **87.07%** | **91.76%** |
| **Class5** | **99.74%** | **99.63%** | **99.74%** | **99.63%** |
| **CNN2 &SVM** | **Class1** | **99.39%** | **99.45%** | **97.07%** | **98.68%** | **100.00%** | **98.62%** | **98.51%** | **98.63%** |
| **Class2** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |
| **Class3** | **99.89%** | **99.62%** | **99.85%** | **99.73%** |
| **Class4** | **98.83%** | **99.92%** | **94.15%** | **96.95%** |
| **Class5** | **99.15%** | **96.80%** | **99.11%** | **97.94%** |
| **CNN2& RF** | **Class1** | **99.88%** | **99.84%** | **99.35%** | **99.6%** | **100.00%** | **99.6%** | **99.67%** | **99.6%** |
| **Class2** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |
| **Class3** | **99.89%** | **99.62%** | **99.85%** | **99.73%** |
| **Class4** | **99.64%** | **99.69%** | **98.54%** | **99.11%** |
| **Class5** | **99.78%** | **99.33%** | **99.63%** | **99.48%** |
| **VGG16&SVM** | **Class1** | **99.88%** | **99.57%** | **99.40%** | **98.99%** | **100.00%** | **98.88%** | **99.70%** | **98.92%** |
| **Class2** | **99.25%** | **96.62%** | **100.00%** | **98.28%** |
| **Class3** | **99.79%** | **99.09%** | **99.85%** | **99.47%** |
| **Class4** | **99.95%** | **99.92%** | **99.85%** | **99.88%** |
| **Class5** | **98.96%** | **99.92%** | **94.73%** | **97.25%** |
| **VGG16&RF** | **Class1** | **99.82%** | **99.62%** | **99.10%** | **99.55%** | **100.00%** | **99.54%** | **99.55%** | **99.54%** |
| **Class2** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |
| **Class3** | **99.86%** | **99.85%** | **99.46%** | **99.66%** |
| **Class4** | **99.68%** | **99.61%** | **98.77%** | **99.19%** |
| **Class5** | **99.73%** | **99.18%** | **99.48%** | **99.33%** |
| **RESNT 50** | **Class1** | **99.55%** | **98.82%** | **97.26%** | **98.58%** | **100.00%** | **98.55%** | **98.61%** | **98.76%** |
| **Class2** | **100.00%** | **100.00%** | **99.54%** | **99.77%** |
| **Class3** | **99.54%** | **100.00%** | **99.54%** | **99.77%** |
| **Class4** | **96.54%** | **97.67%** | **96.42%** | **97.04%** |
| **Class5** | **98.4%** | **97.98%** | **99.25%** | **98.61%** |
| **EffivintNet** | **Class1** | **98.42%** | **95.68%** | **92.16%** | **96.07%** | **98.42%** | **95.68%** | **95.18%** | **95.69%** |
| **Class2** | **100.00%** | **100.00%** | **100.00%** | **100.00%** |
| **Class3** | **98.09%** | **100.00%** | **98.09%** | **99.03%** |
| **Class4** | **84.06%** | **99.09%** | **84.06%** | **90.96%** |
| **Class5** | **97.84%** | **89.08%** | **97.84%** | **93.26%** |