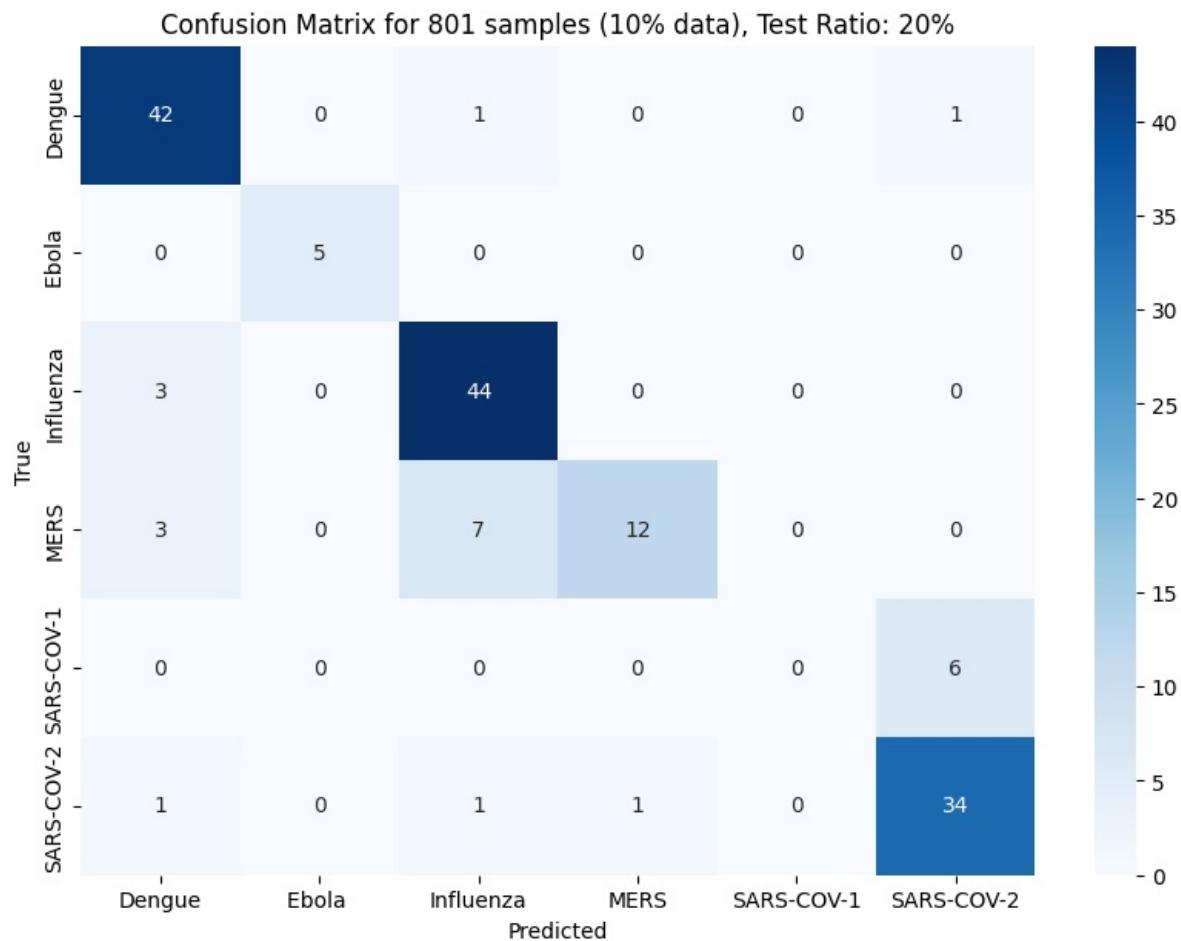


Consolidated LSTM Model Evaluation Report

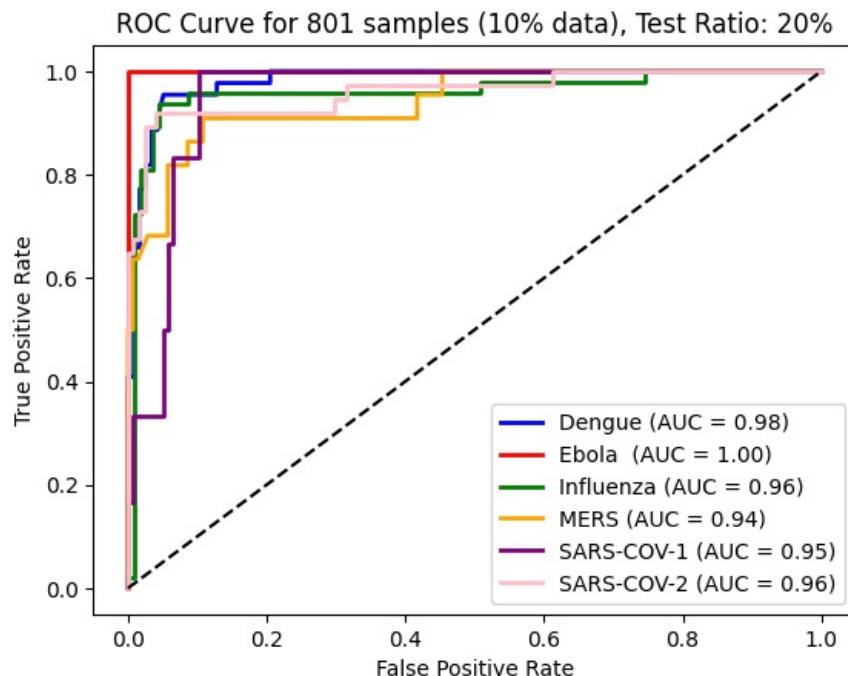
Data Size: 801 samples, Test Ratio: 0.2

- Accuracy: 0.8509
- Precision: 0.9066
- Recall: 0.7258
- F1_score: 0.7235

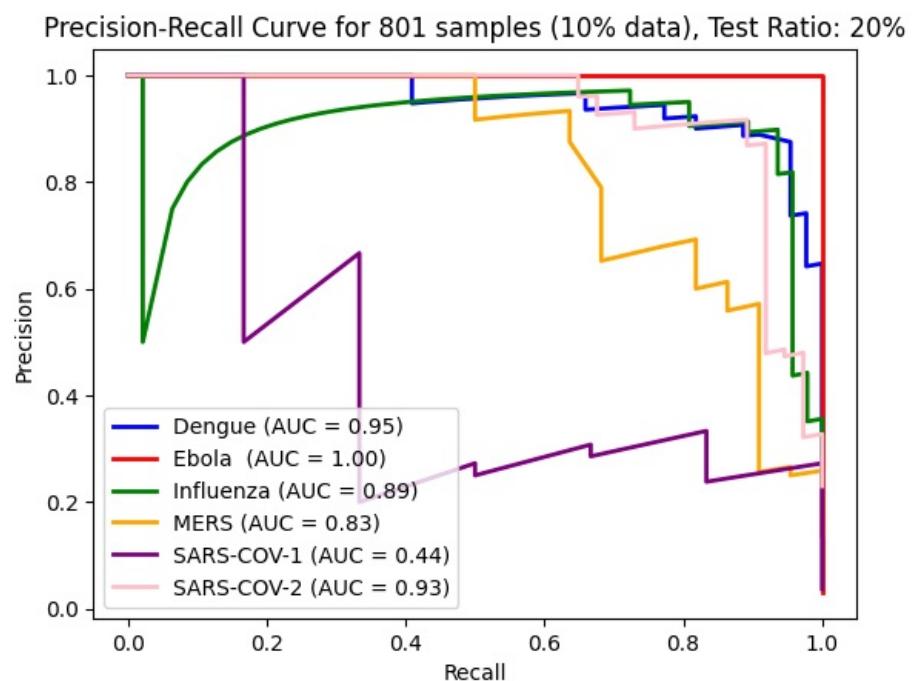
Confusion Matrix for 801 samples (10% data), Test Ratio: 20%



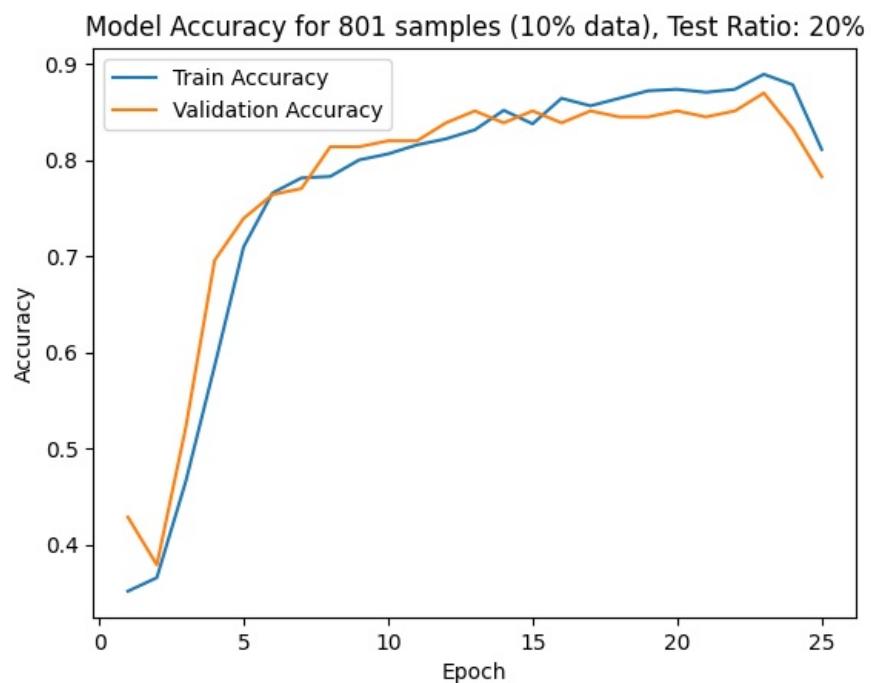
ROC Curve for 801 samples (10% data), Test Ratio: 20%



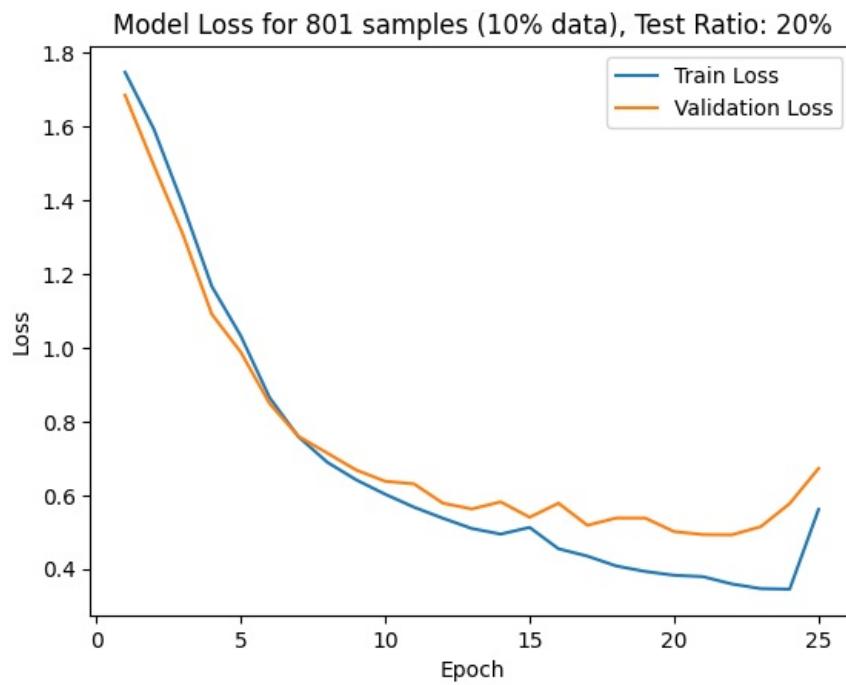
Precision-Recall Curve for 801 samples (10% data), Test Ratio: 20%



Model Accuracy for 801 samples (10% data), Test Ratio: 20%



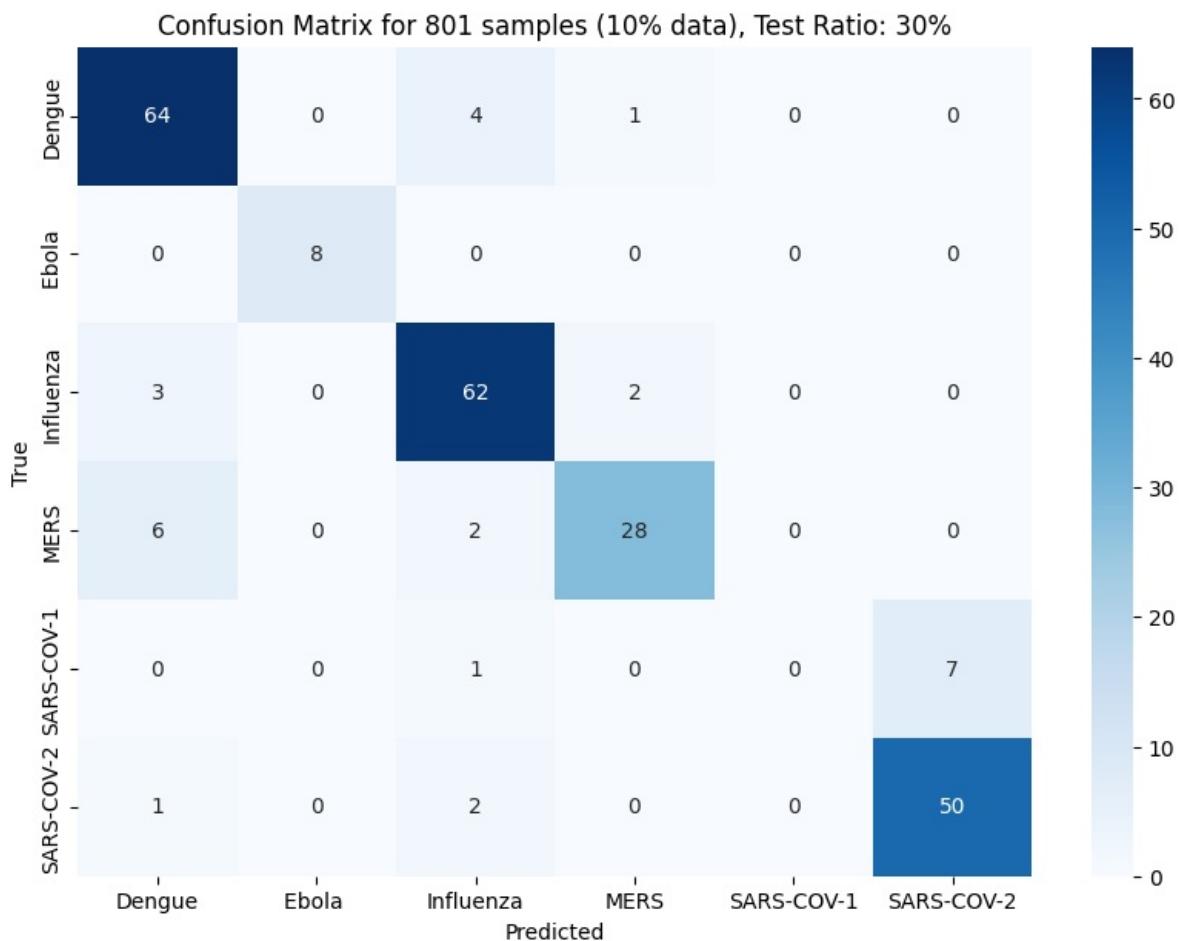
Model Loss for 801 samples (10% data), Test Ratio: 20%



Data Size: 801 samples, Test Ratio: 0.3

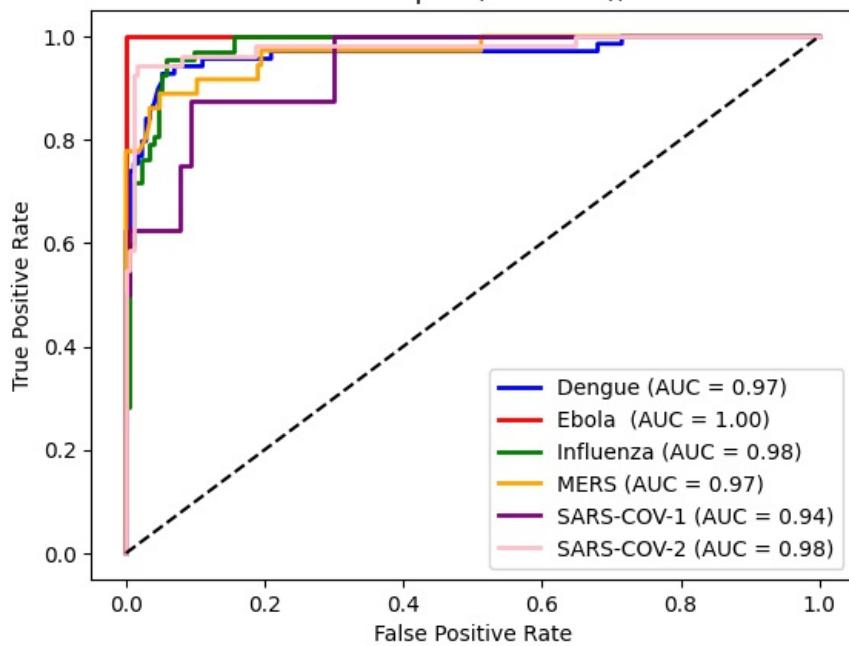
- Accuracy: 0.8797
- Precision: 0.9198
- Recall: 0.7623
- F1_score: 0.7564

Confusion Matrix for 801 samples (10% data), Test Ratio: 30%

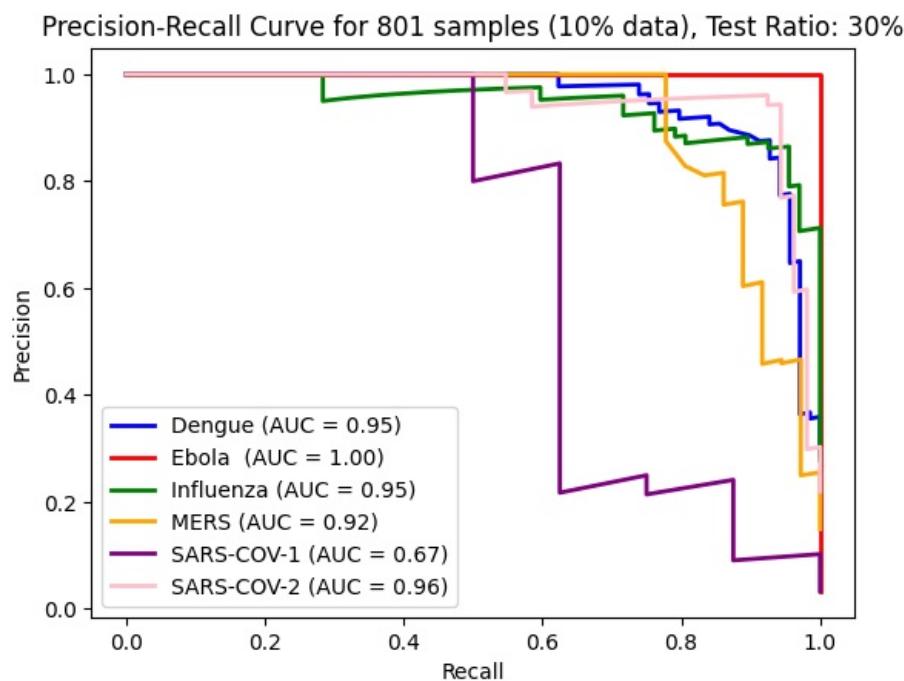


ROC Curve for 801 samples (10% data), Test Ratio: 30%

ROC Curve for 801 samples (10% data), Test Ratio: 30%

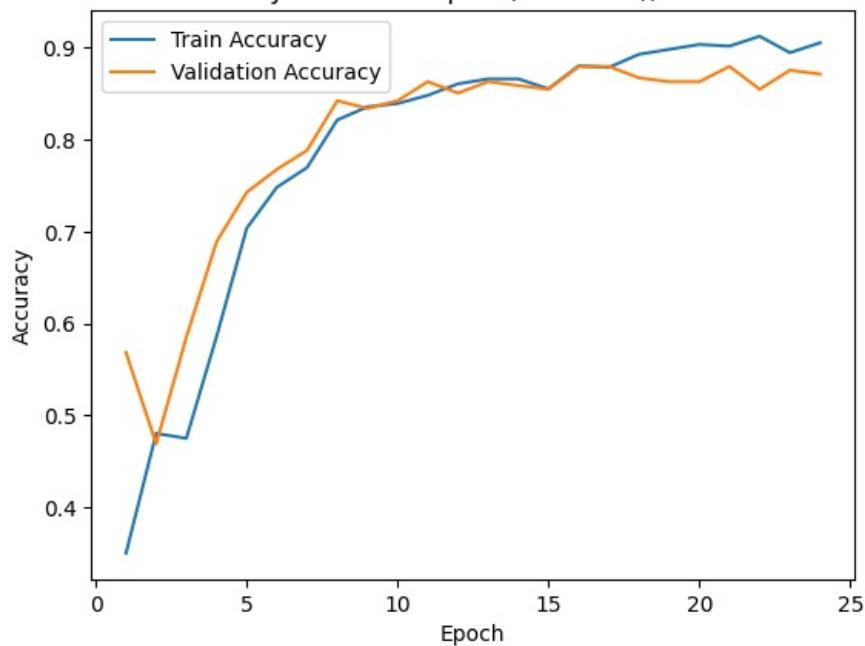


Precision-Recall Curve for 801 samples (10% data), Test Ratio: 30%

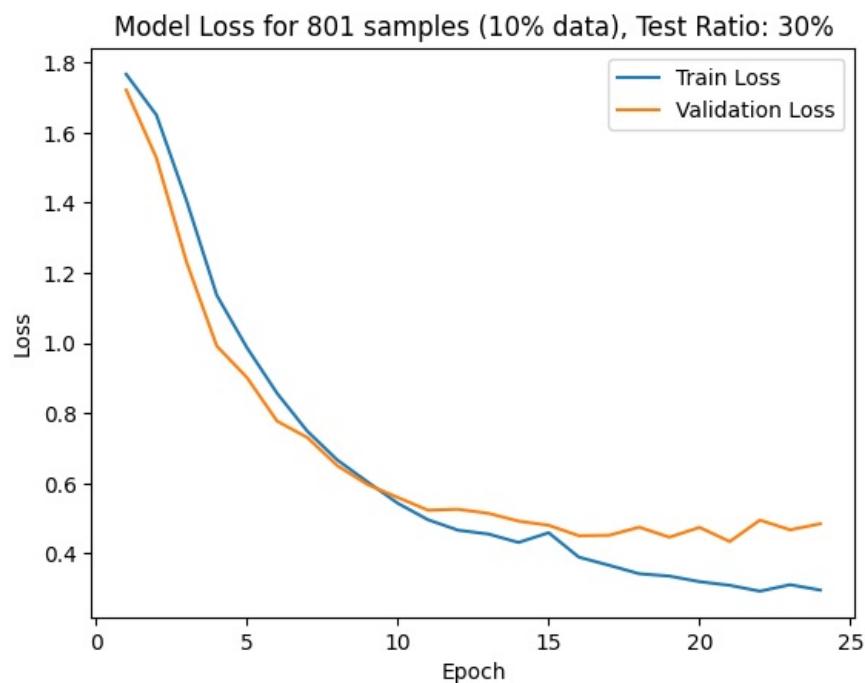


Model Accuracy for 801 samples (10% data), Test Ratio: 30%

Model Accuracy for 801 samples (10% data), Test Ratio: 30%



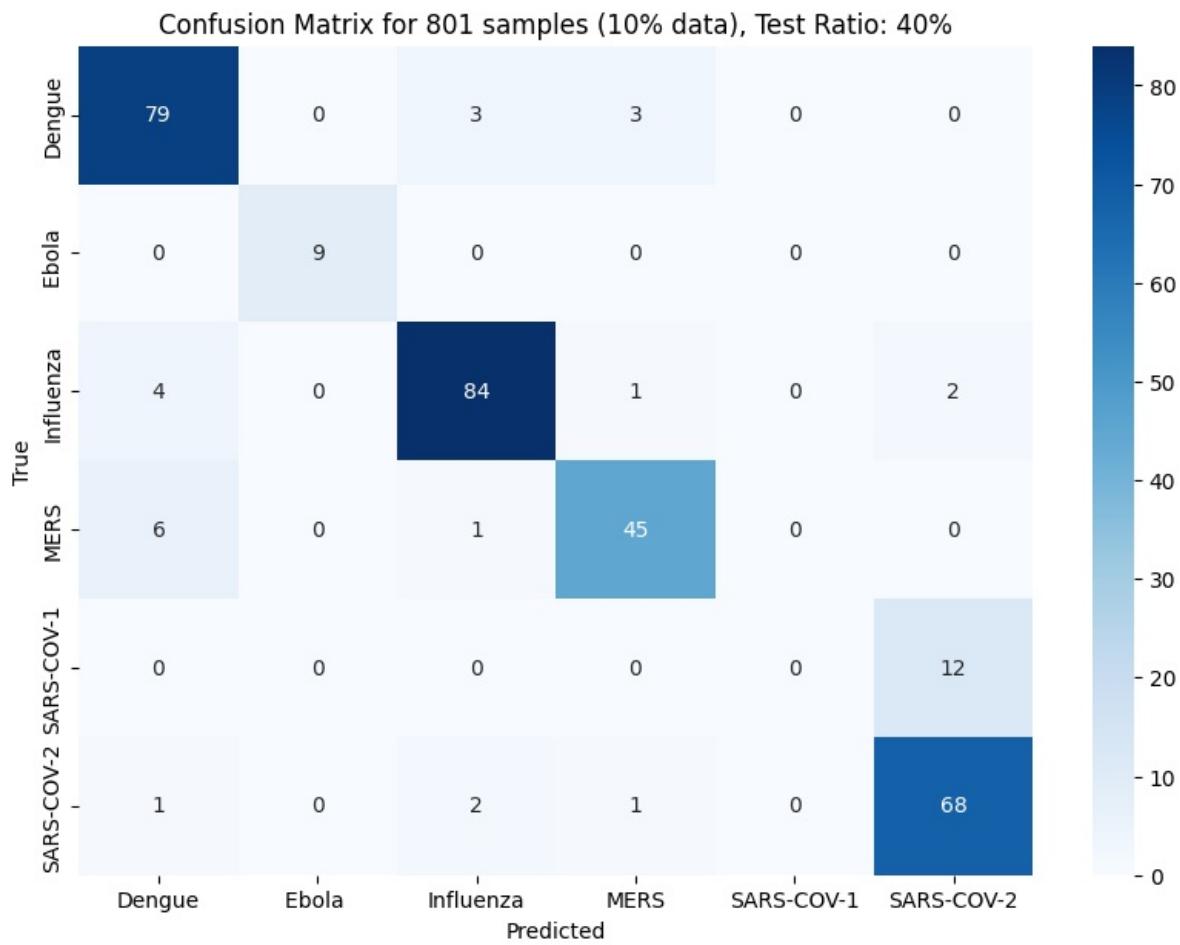
Model Loss for 801 samples (10% data), Test Ratio: 30%



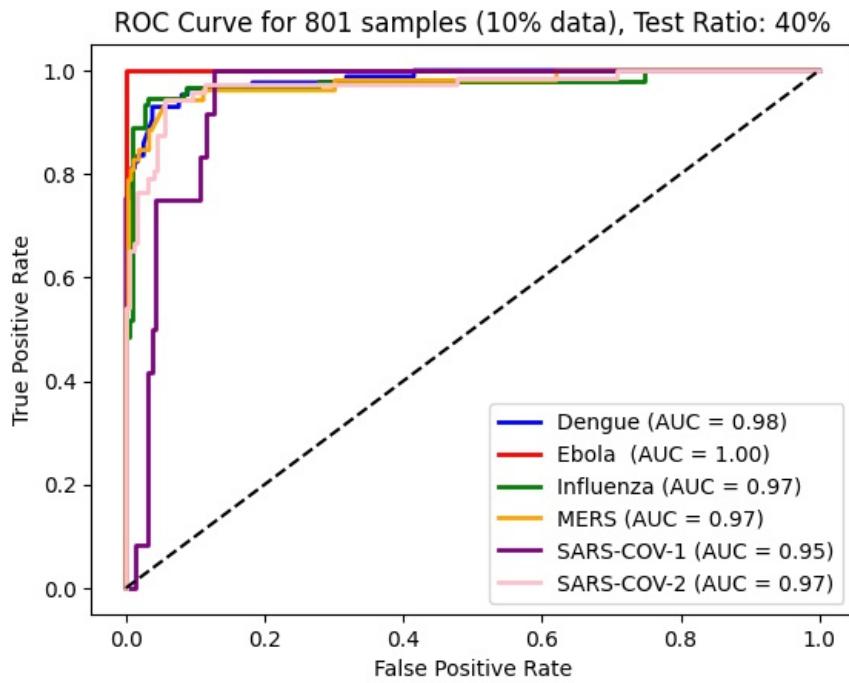
Data Size: 801 samples, Test Ratio: 0.4

- Accuracy: 0.8879
- Precision: 0.9234
- Recall: 0.7771
- F1_score: 0.7661

Confusion Matrix for 801 samples (10% data), Test Ratio: 40%

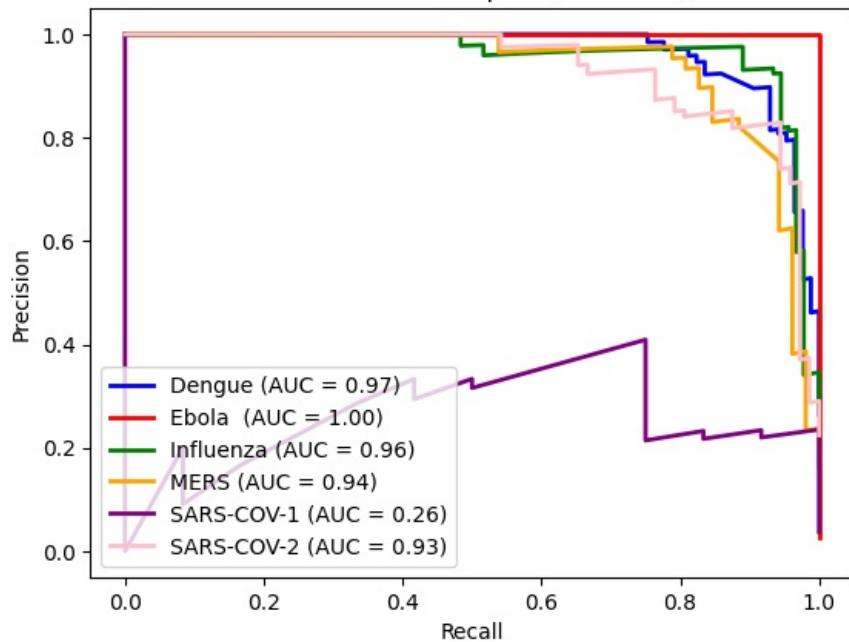


ROC Curve for 801 samples (10% data), Test Ratio: 40%

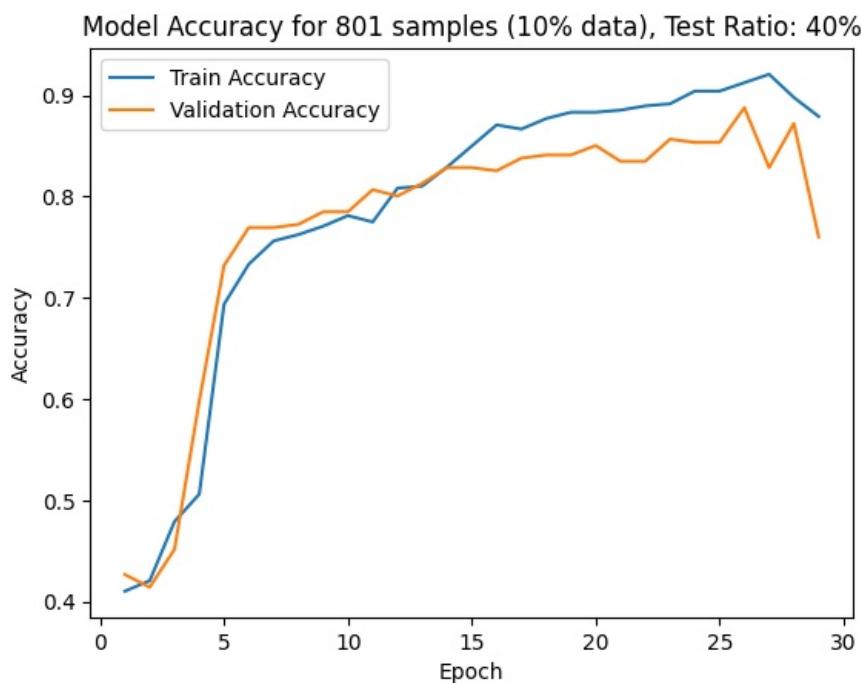


Precision-Recall Curve for 801 samples (10% data), Test Ratio: 40%

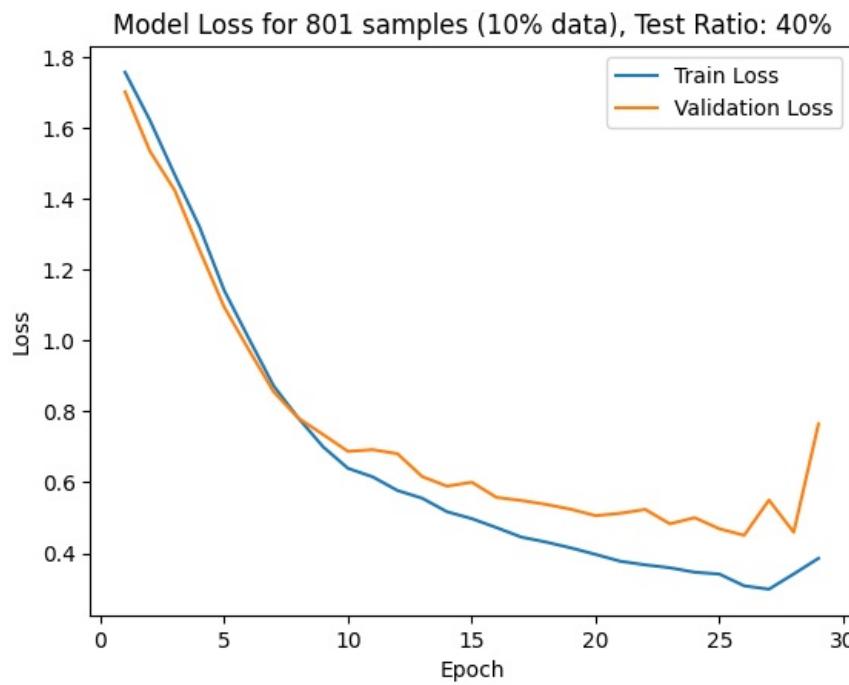
Precision-Recall Curve for 801 samples (10% data), Test Ratio: 40%



Model Accuracy for 801 samples (10% data), Test Ratio: 40%



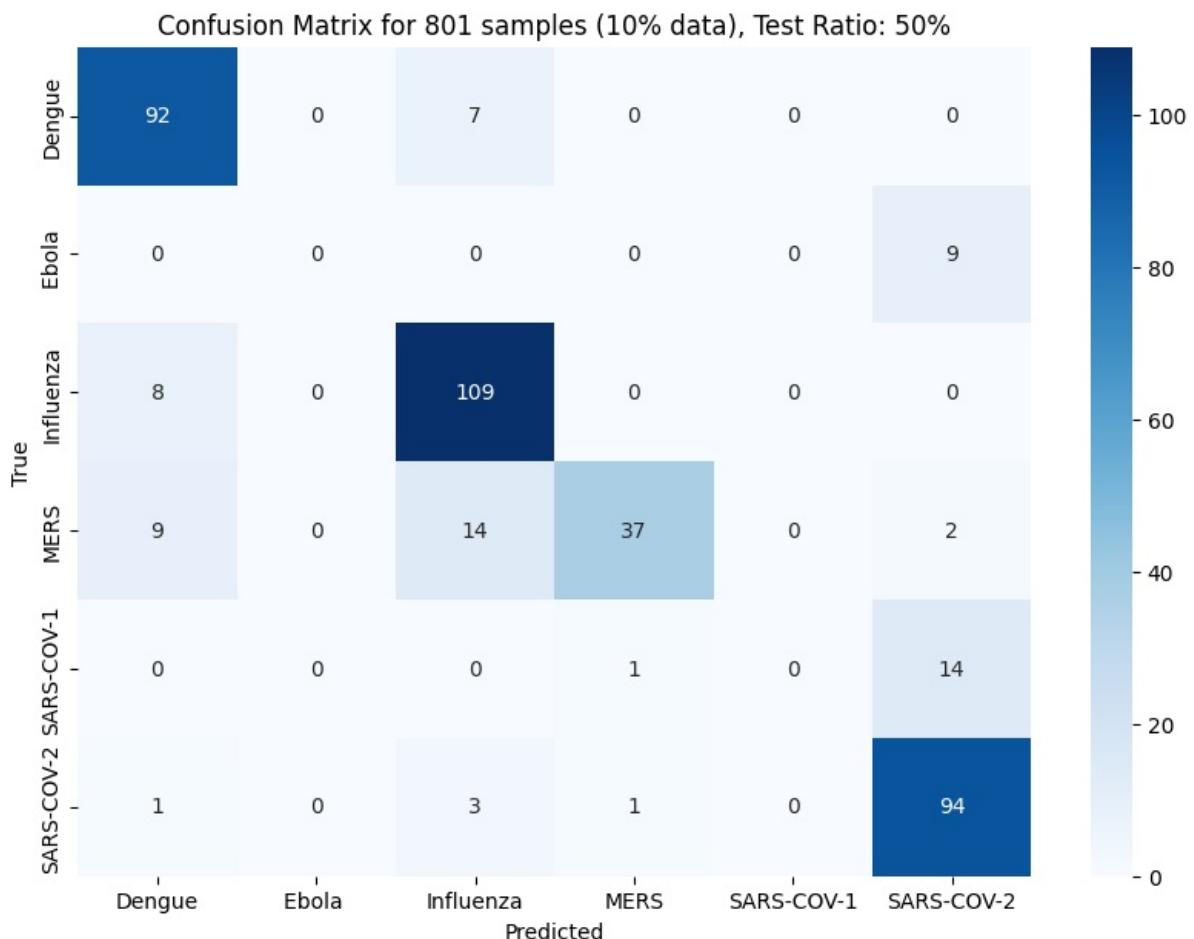
Model Loss for 801 samples (10% data), Test Ratio: 40%



Data Size: 801 samples, Test Ratio: 0.5

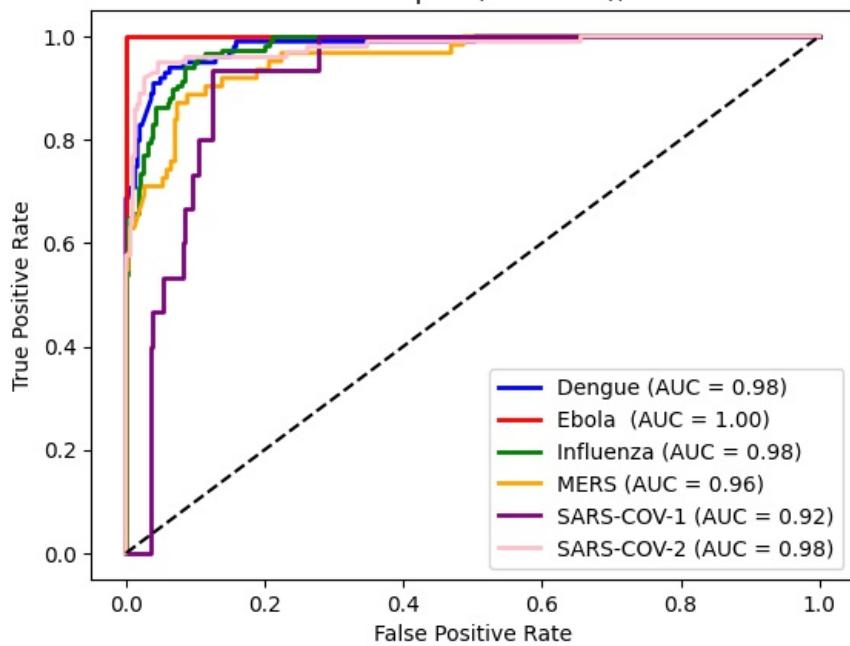
- Accuracy: 0.8279
- Precision: 0.8991
- Recall: 0.5679
- F1_score: 0.5579

Confusion Matrix for 801 samples (10% data), Test Ratio: 50%

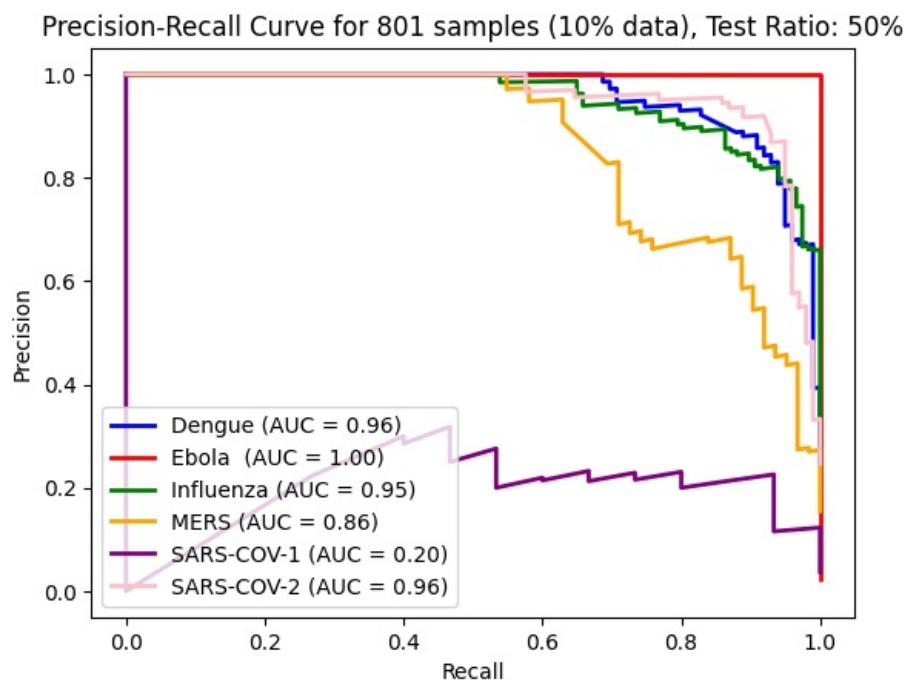


ROC Curve for 801 samples (10% data), Test Ratio: 50%

ROC Curve for 801 samples (10% data), Test Ratio: 50%

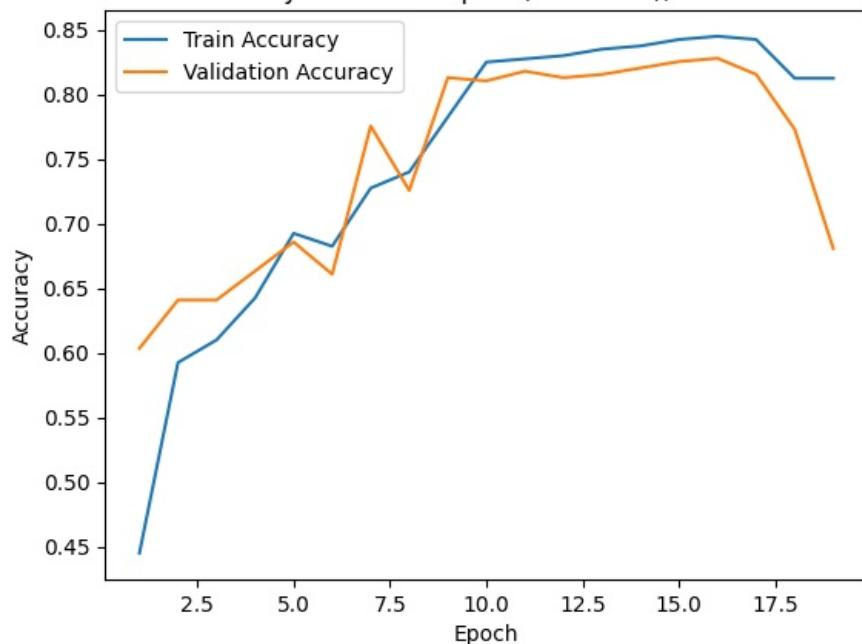


Precision-Recall Curve for 801 samples (10% data), Test Ratio: 50%

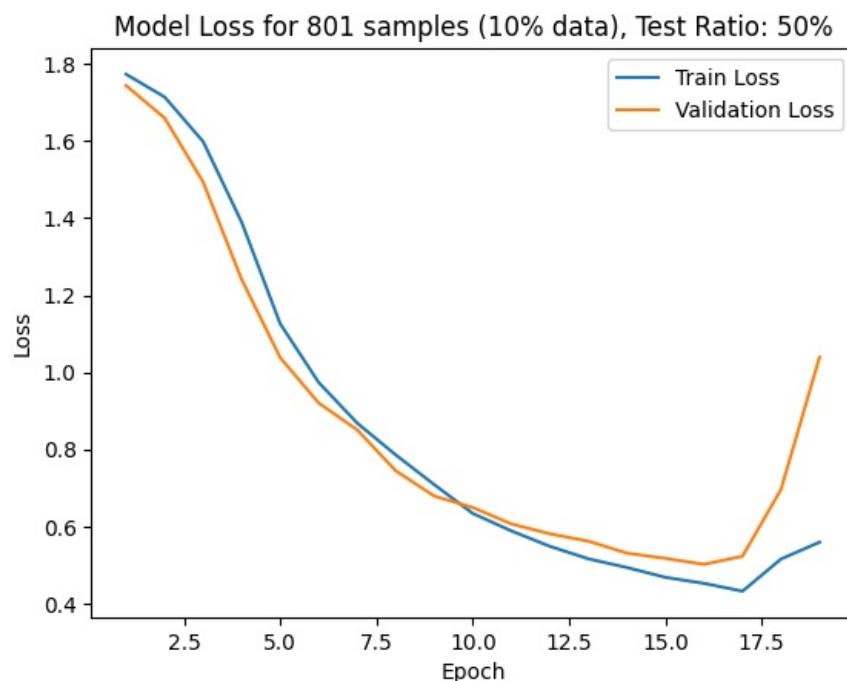


Model Accuracy for 801 samples (10% data), Test Ratio: 50%

Model Accuracy for 801 samples (10% data), Test Ratio: 50%



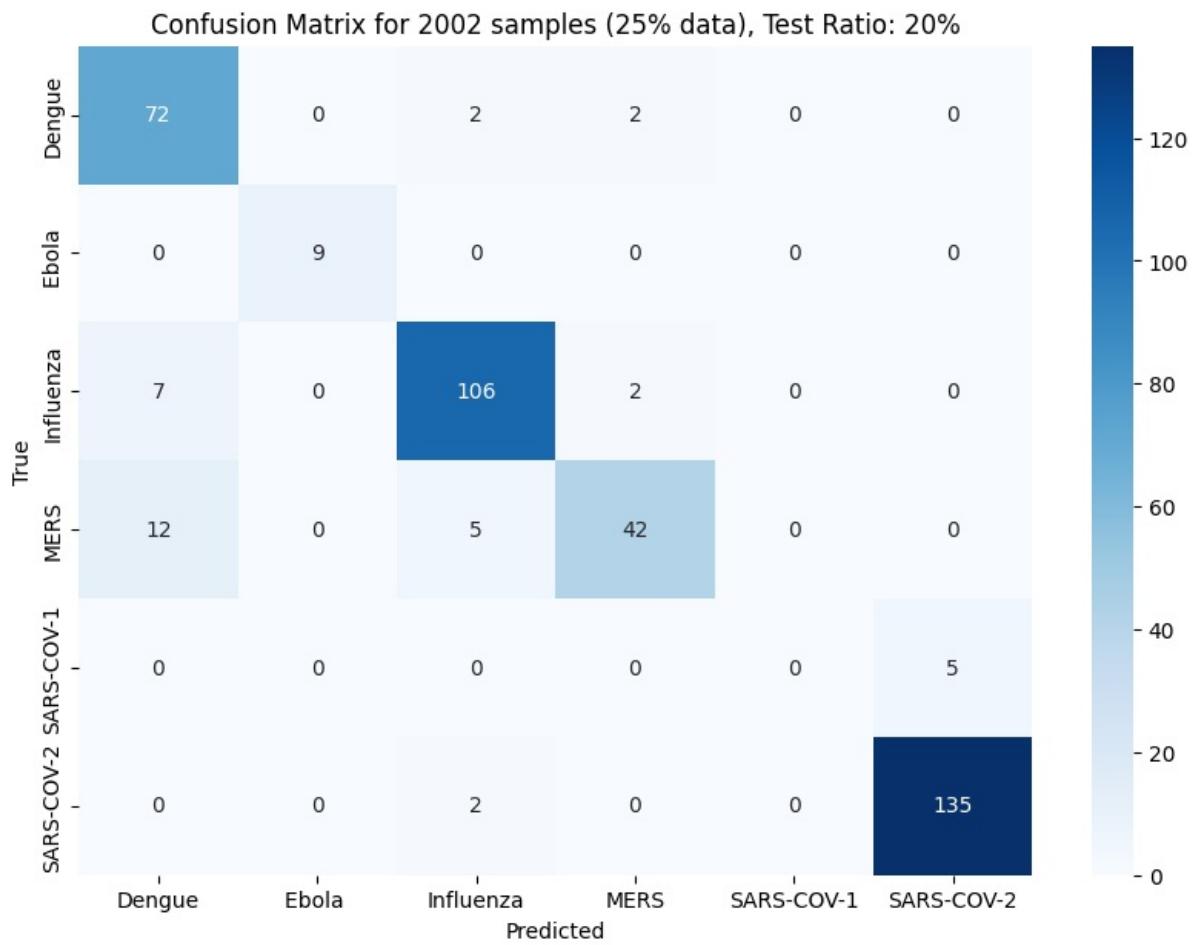
Model Loss for 801 samples (10% data), Test Ratio: 50%



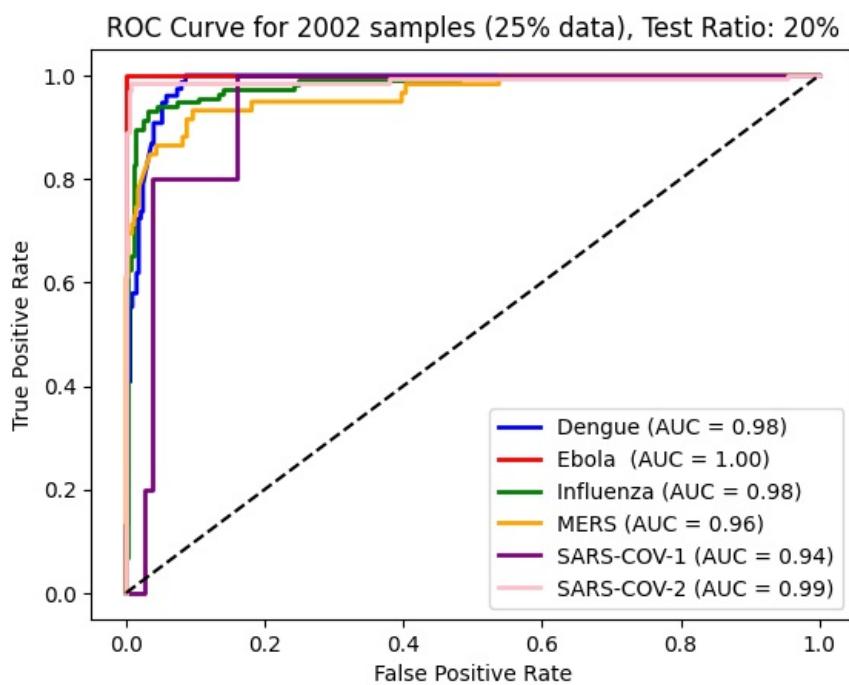
Data Size: 2002 samples, Test Ratio: 0.2

- Accuracy: 0.9077
- Precision: 0.9317
- Recall: 0.7611
- F1_score: 0.7598

Confusion Matrix for 2002 samples (25% data), Test Ratio: 20%

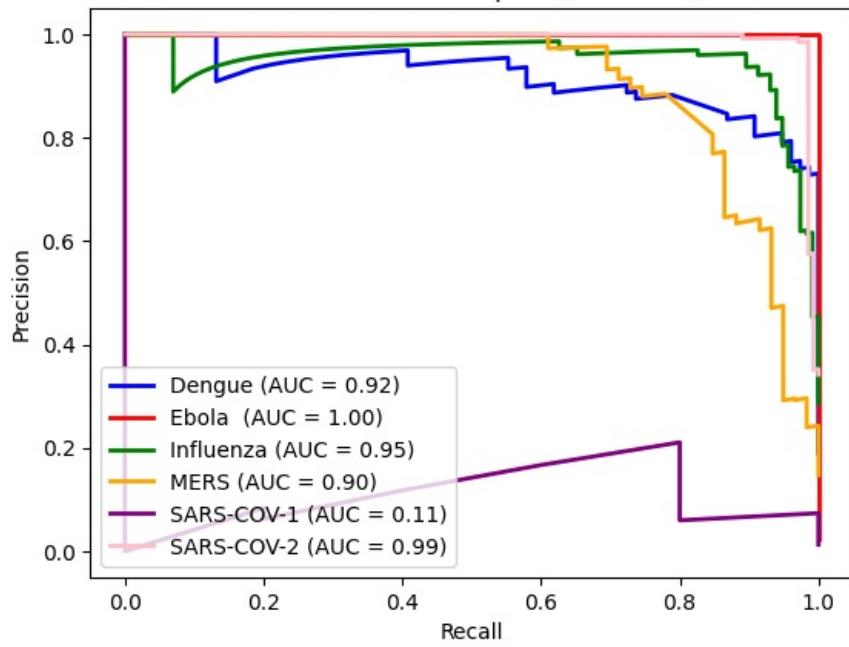


ROC Curve for 2002 samples (25% data), Test Ratio: 20%

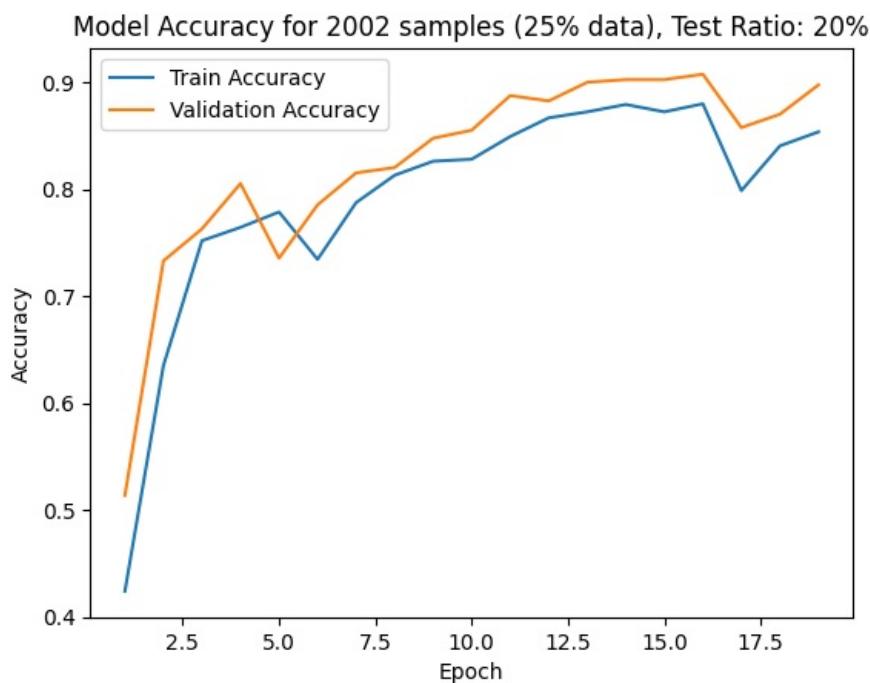


Precision-Recall Curve for 2002 samples (25% data), Test Ratio: 20%

Precision-Recall Curve for 2002 samples (25% data), Test Ratio: 20%

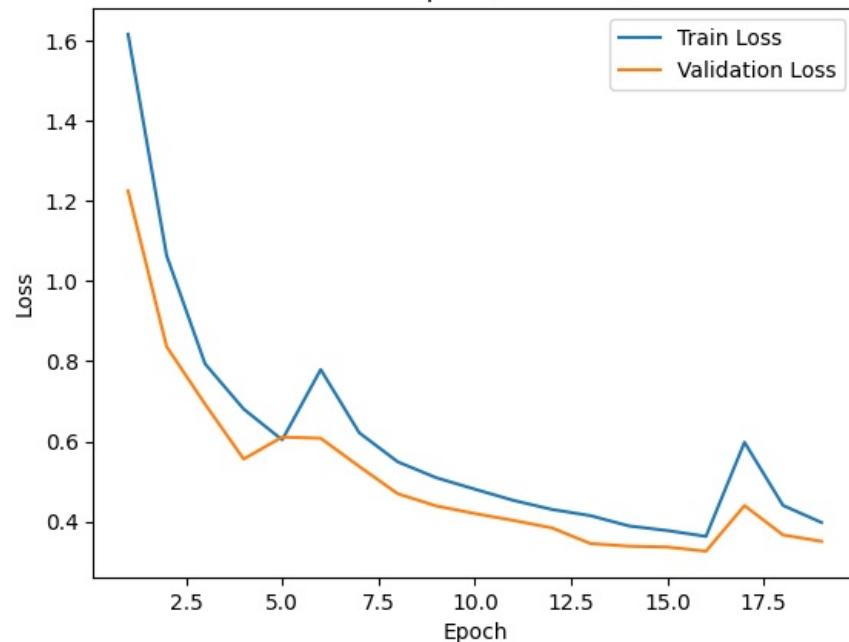


Model Accuracy for 2002 samples (25% data), Test Ratio: 20%



Model Loss for 2002 samples (25% data), Test Ratio: 20%

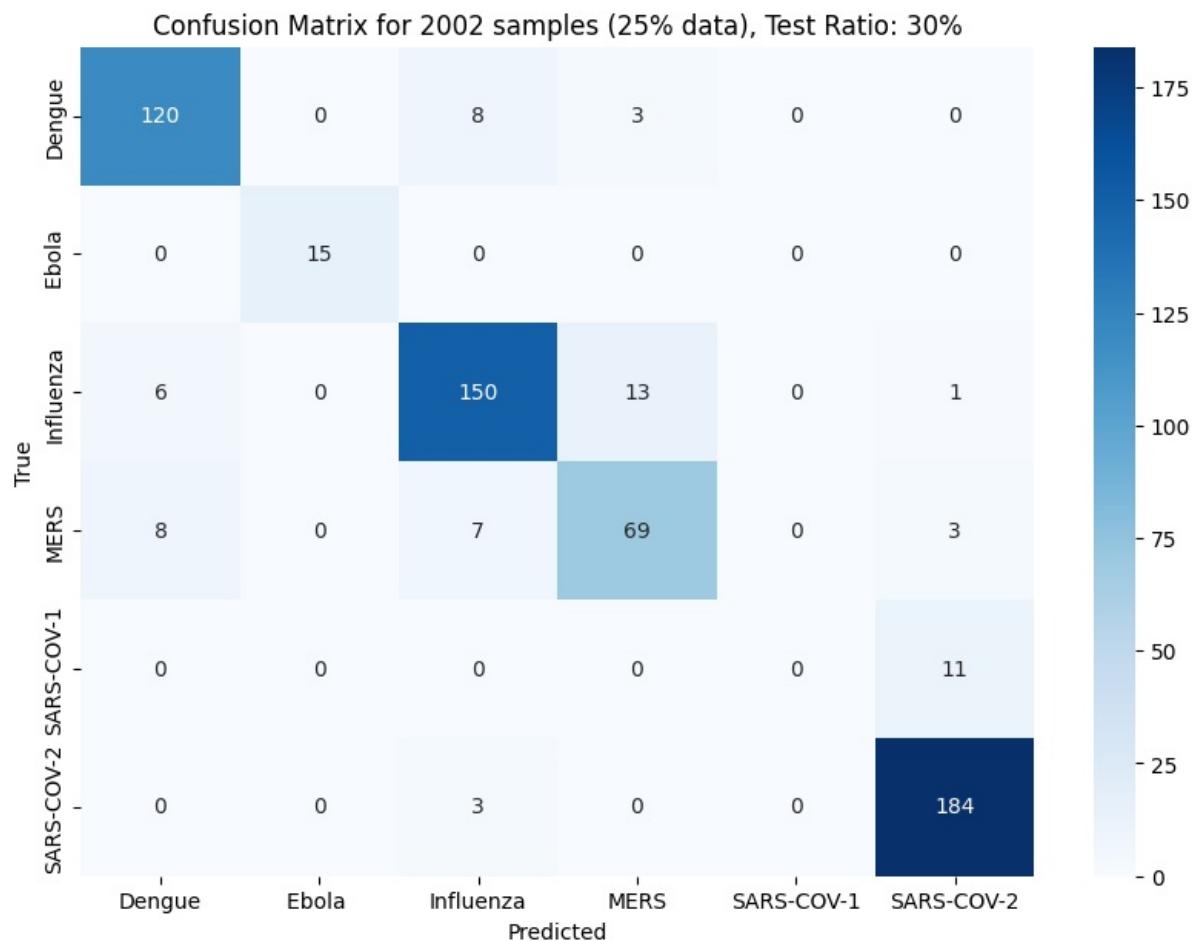
Model Loss for 2002 samples (25% data), Test Ratio: 20%



Data Size: 2002 samples, Test Ratio: 0.3

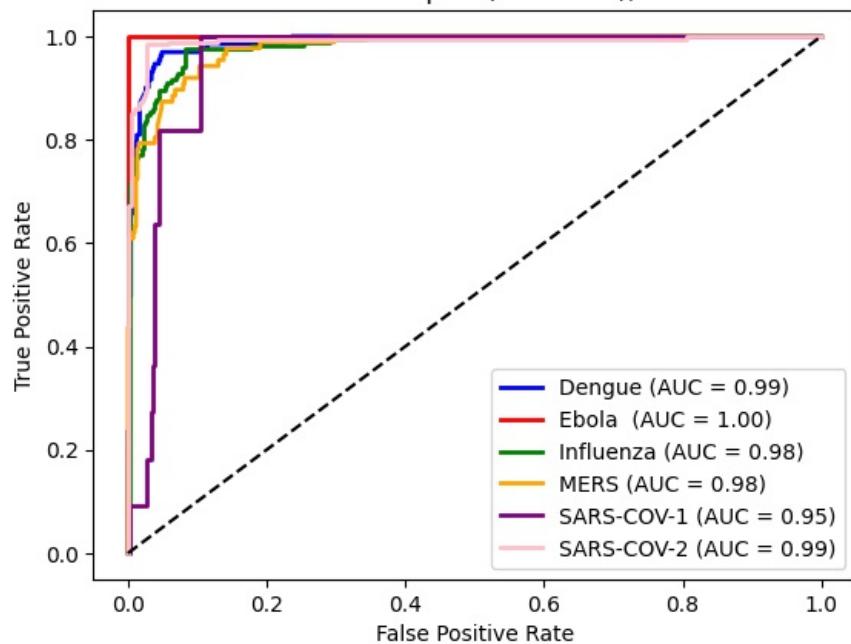
- Accuracy: 0.8952
- Precision: 0.9208
- Recall: 0.7626
- F1_score: 0.7582

Confusion Matrix for 2002 samples (25% data), Test Ratio: 30%

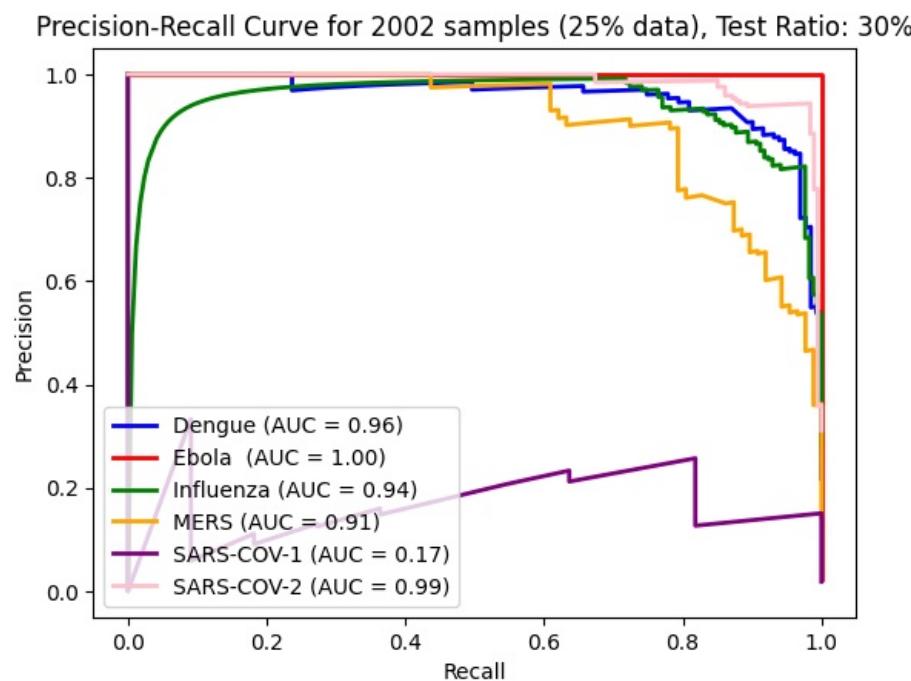


ROC Curve for 2002 samples (25% data), Test Ratio: 30%

ROC Curve for 2002 samples (25% data), Test Ratio: 30%

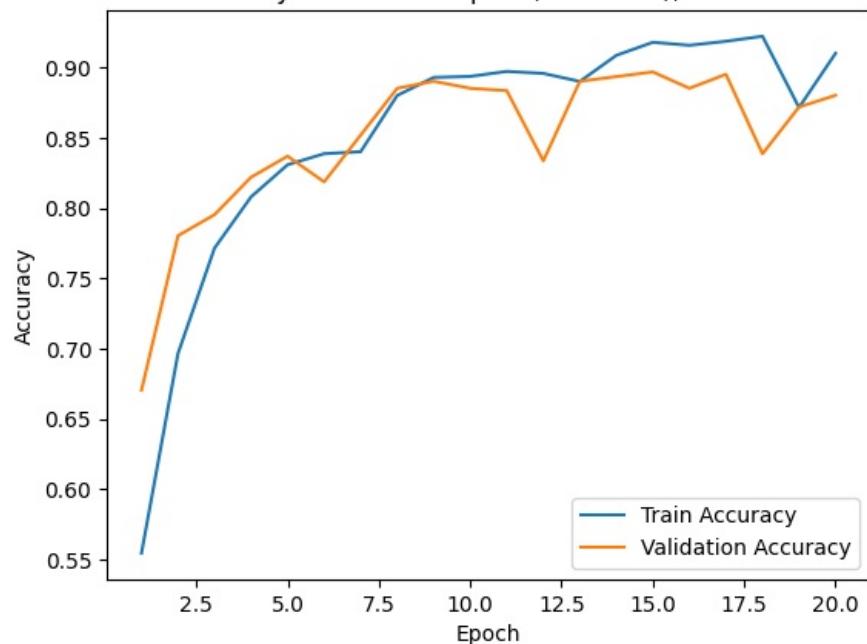


Precision-Recall Curve for 2002 samples (25% data), Test Ratio: 30%

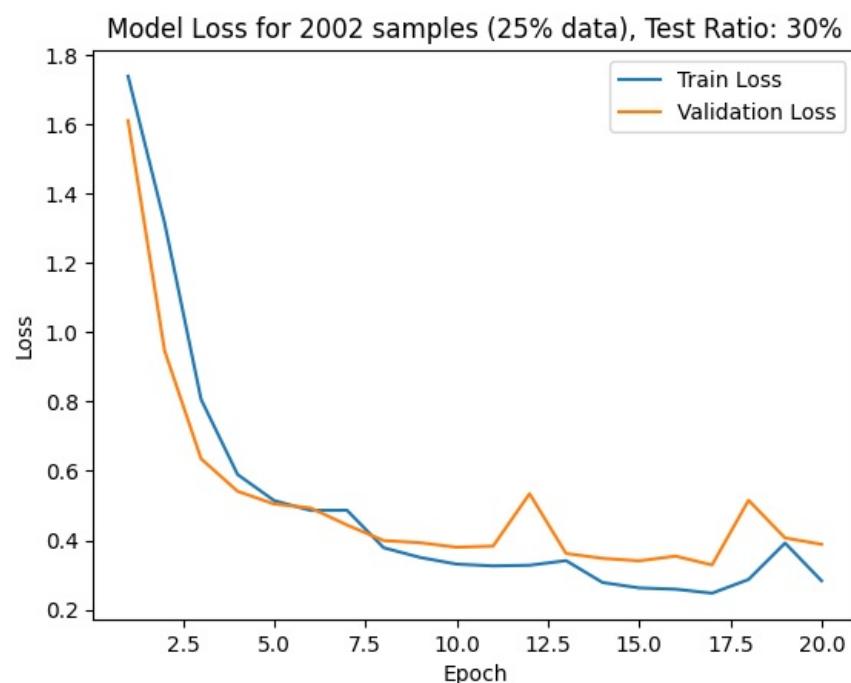


Model Accuracy for 2002 samples (25% data), Test Ratio: 30%

Model Accuracy for 2002 samples (25% data), Test Ratio: 30%



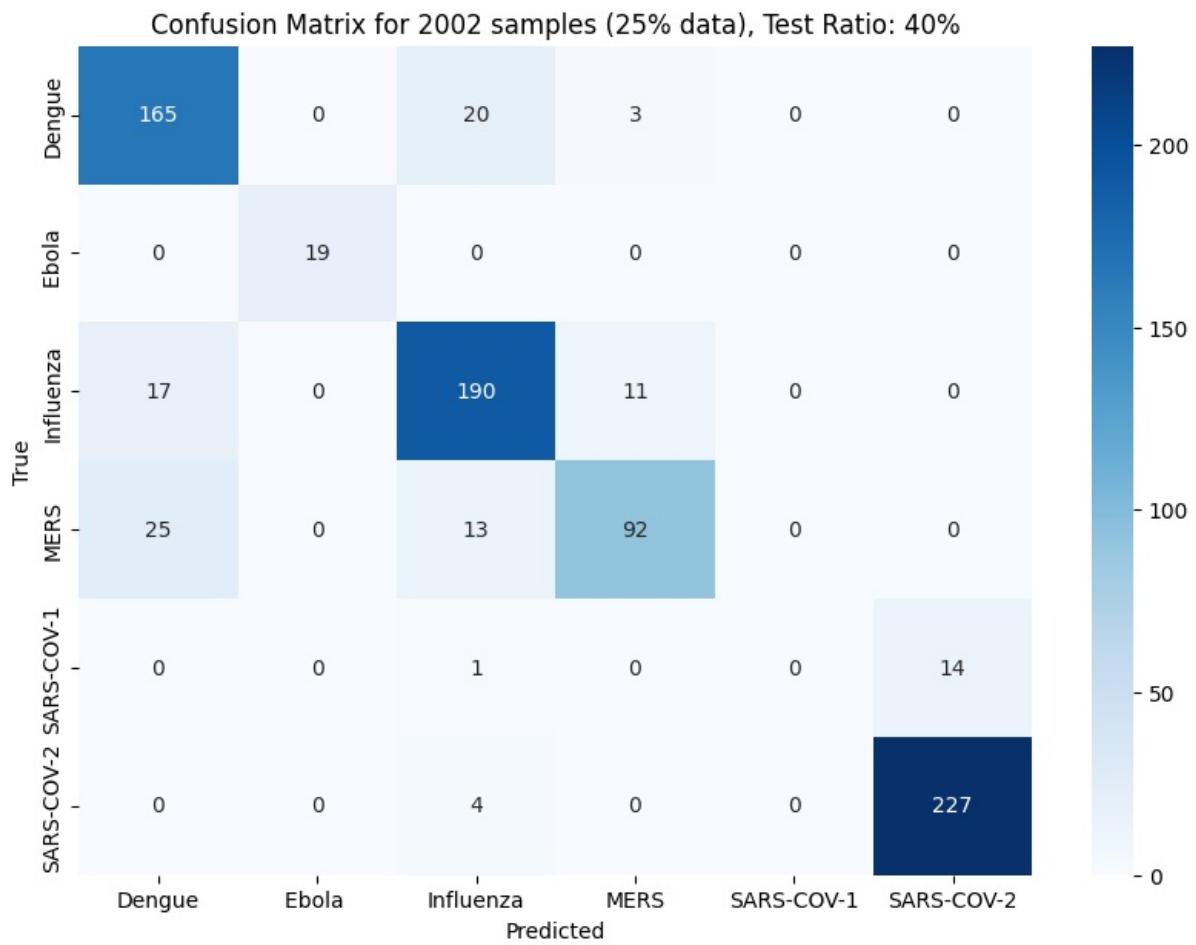
Model Loss for 2002 samples (25% data), Test Ratio: 30%



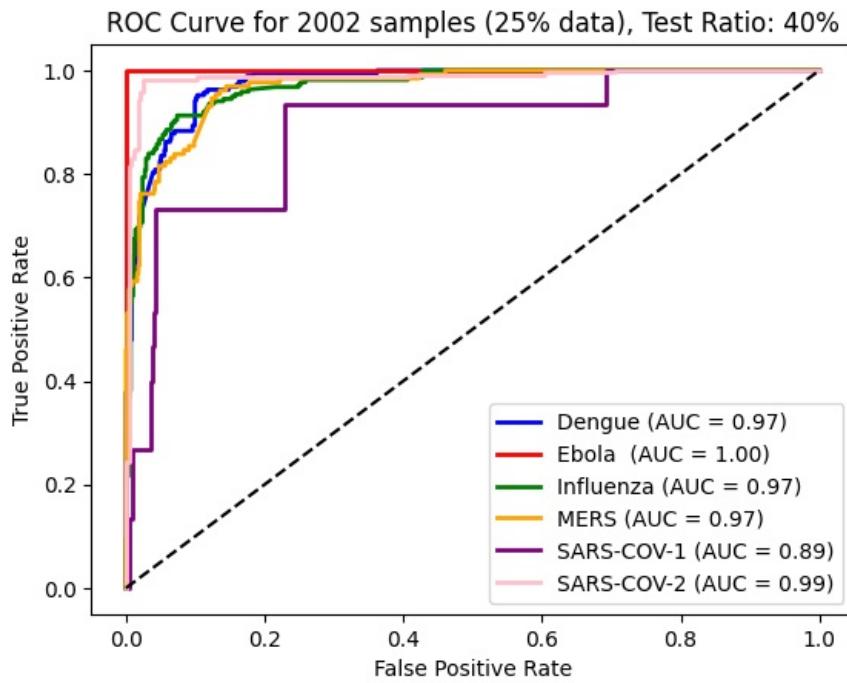
Data Size: 2002 samples, Test Ratio: 0.4

- Accuracy: 0.8652
- Precision: 0.9067
- Recall: 0.7399
- F1_score: 0.7382

Confusion Matrix for 2002 samples (25% data), Test Ratio: 40%

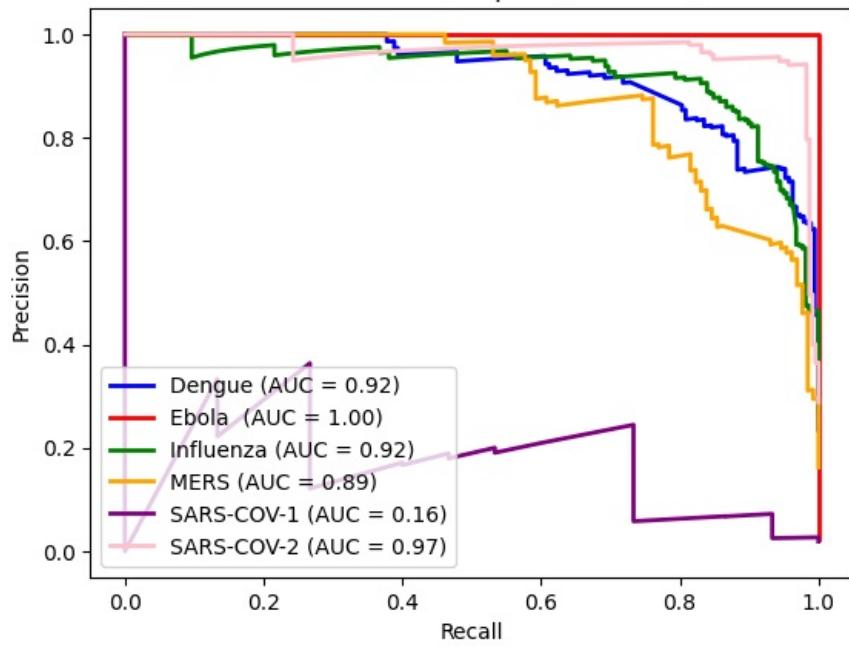


ROC Curve for 2002 samples (25% data), Test Ratio: 40%

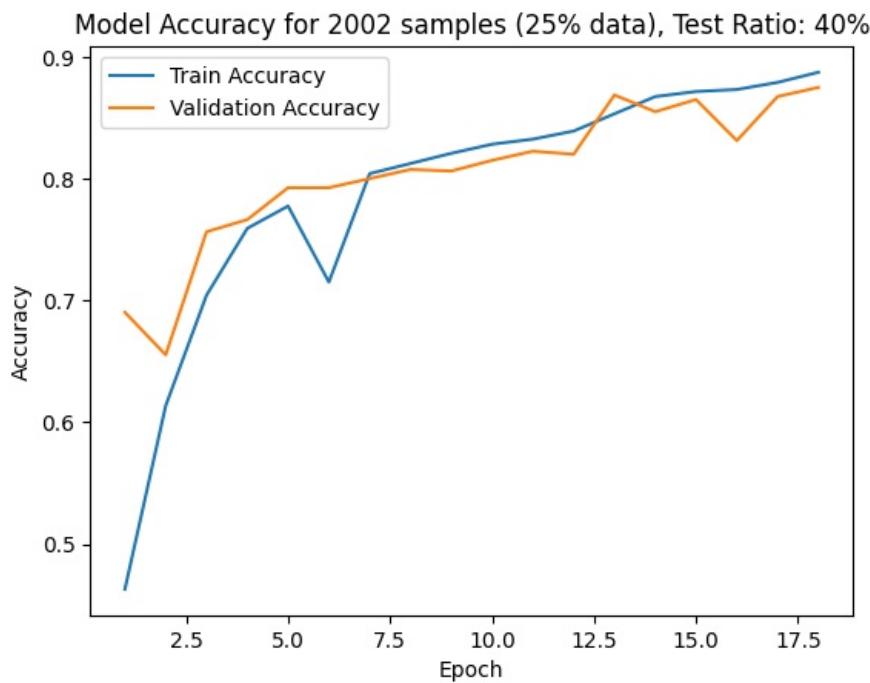


Precision-Recall Curve for 2002 samples (25% data), Test Ratio: 40%

Precision-Recall Curve for 2002 samples (25% data), Test Ratio: 40%

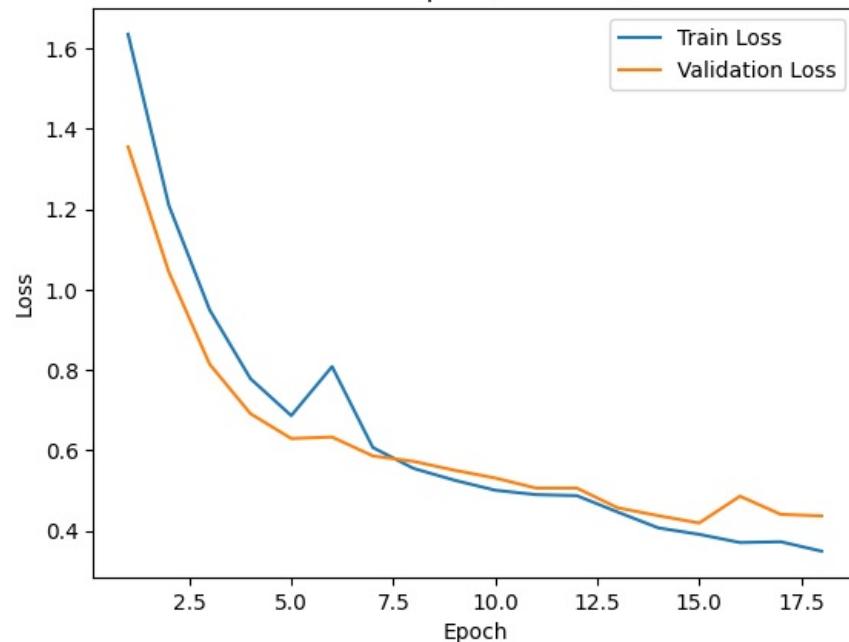


Model Accuracy for 2002 samples (25% data), Test Ratio: 40%



Model Loss for 2002 samples (25% data), Test Ratio: 40%

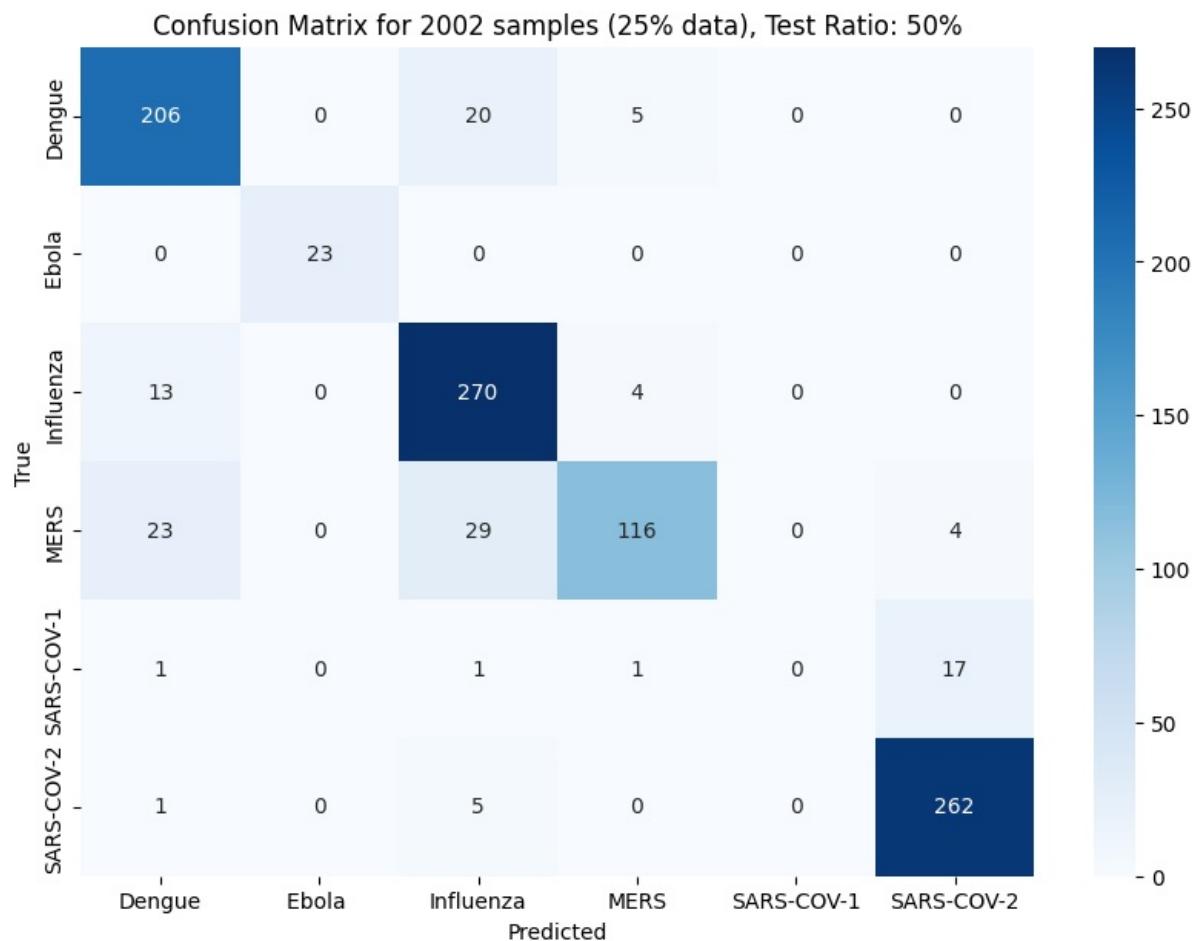
Model Loss for 2002 samples (25% data), Test Ratio: 40%



Data Size: 2002 samples, Test Ratio: 0.5

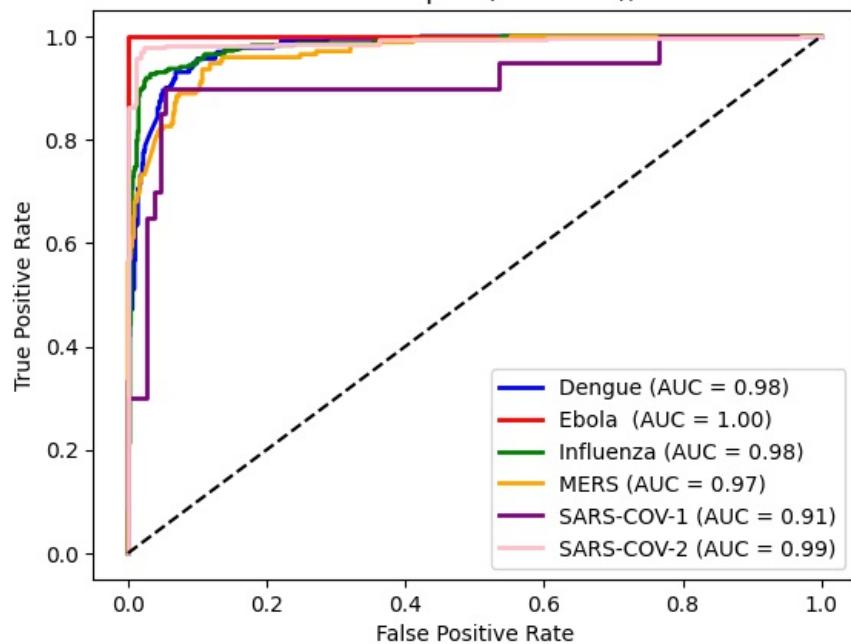
- Accuracy: 0.8761
- Precision: 0.9202
- Recall: 0.7474
- F1_score: 0.7465

Confusion Matrix for 2002 samples (25% data), Test Ratio: 50%

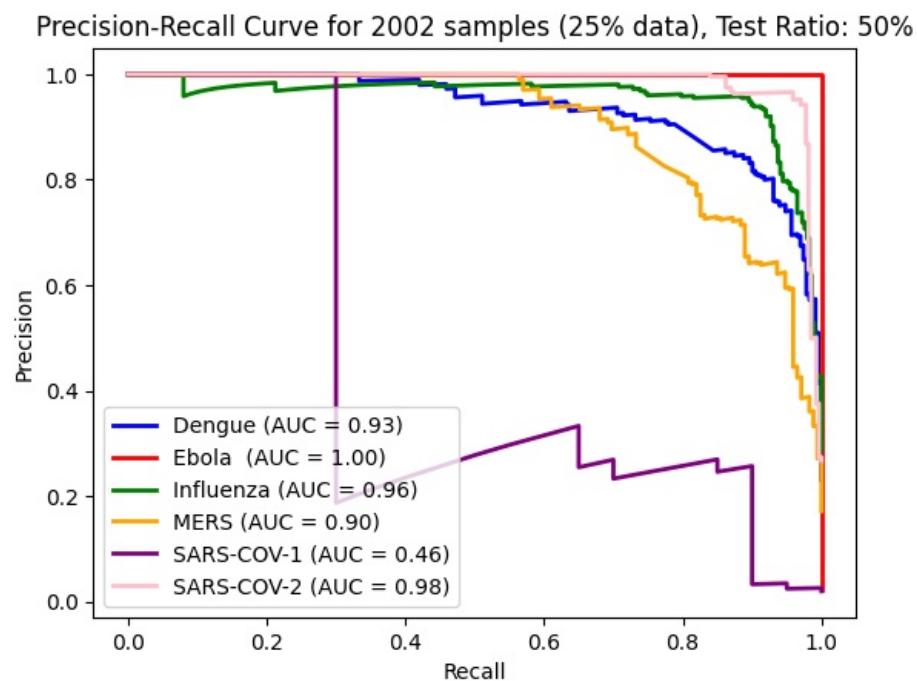


ROC Curve for 2002 samples (25% data), Test Ratio: 50%

ROC Curve for 2002 samples (25% data), Test Ratio: 50%

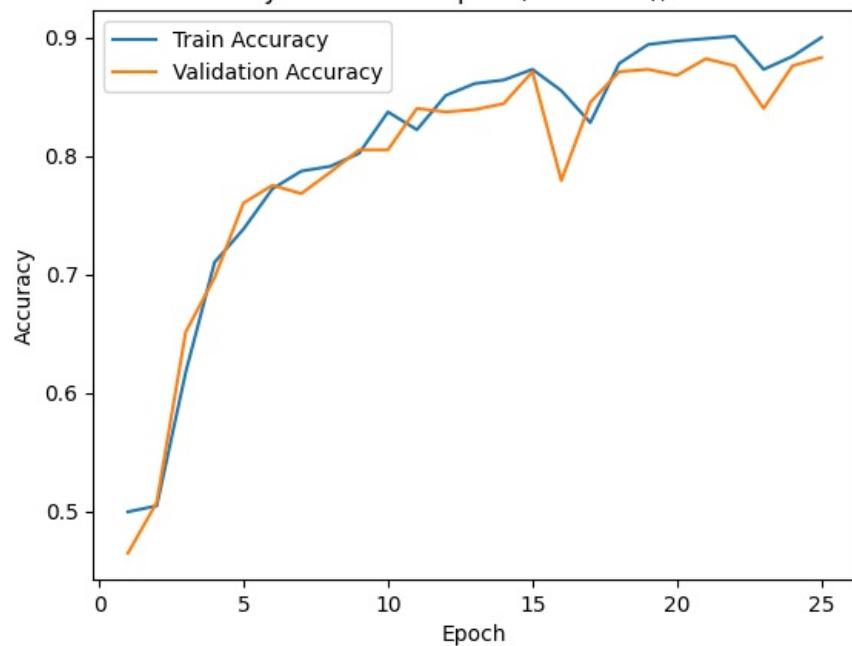


Precision-Recall Curve for 2002 samples (25% data), Test Ratio: 50%

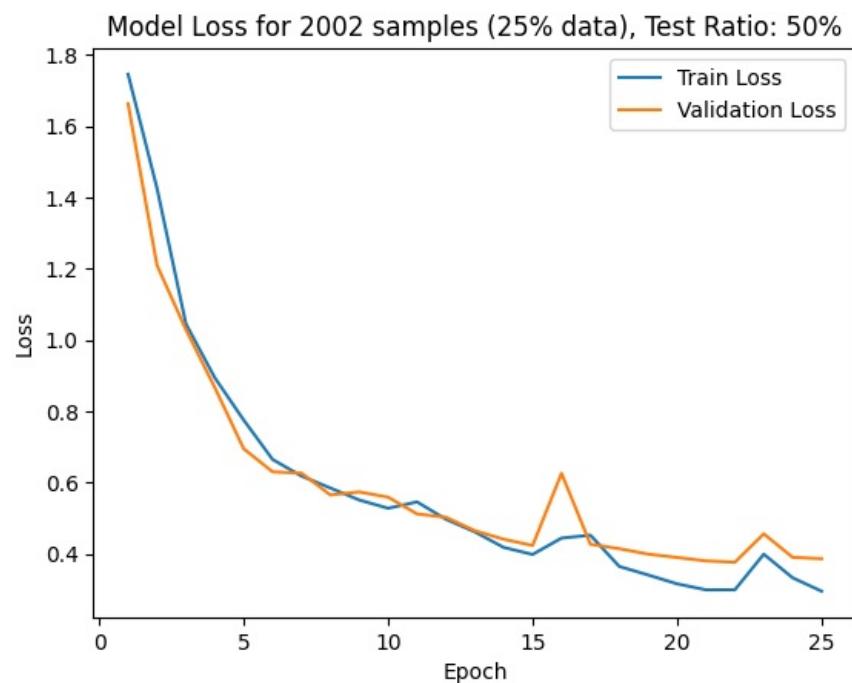


Model Accuracy for 2002 samples (25% data), Test Ratio: 50%

Model Accuracy for 2002 samples (25% data), Test Ratio: 50%



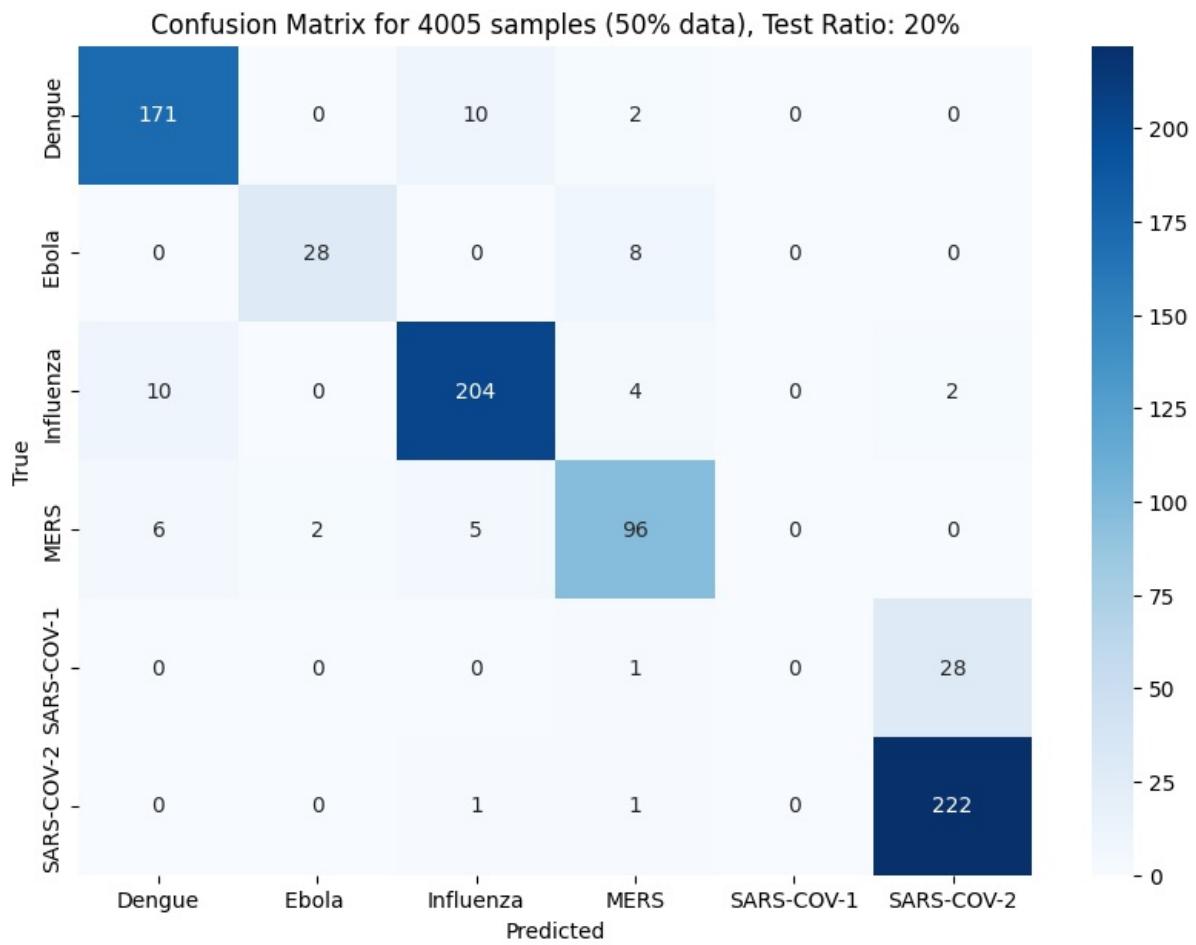
Model Loss for 2002 samples (25% data), Test Ratio: 50%



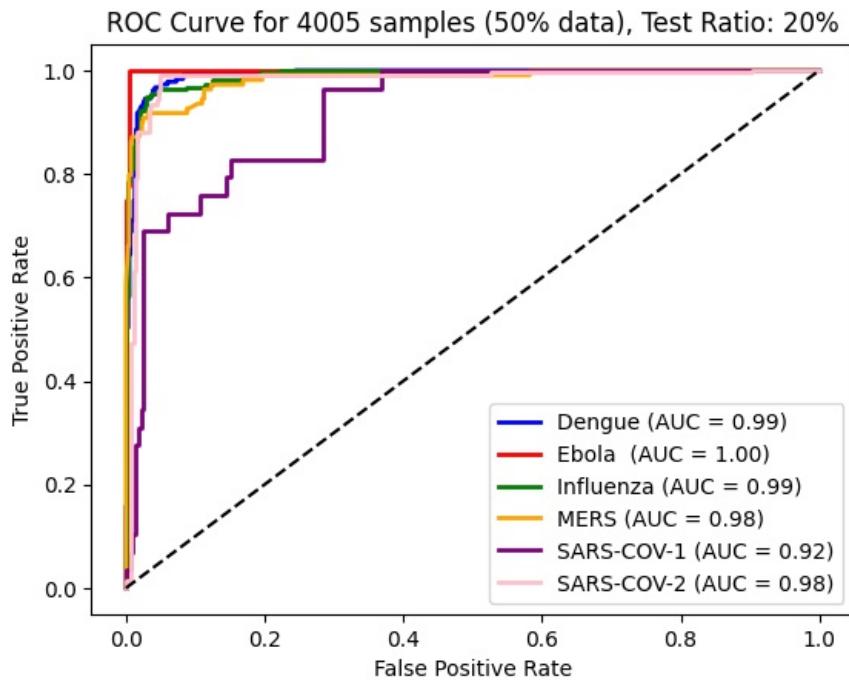
Data Size: 4005 samples, Test Ratio: 0.2

- Accuracy: 0.9001
- Precision: 0.9189
- Recall: 0.7519
- F1_score: 0.7503

Confusion Matrix for 4005 samples (50% data), Test Ratio: 20%

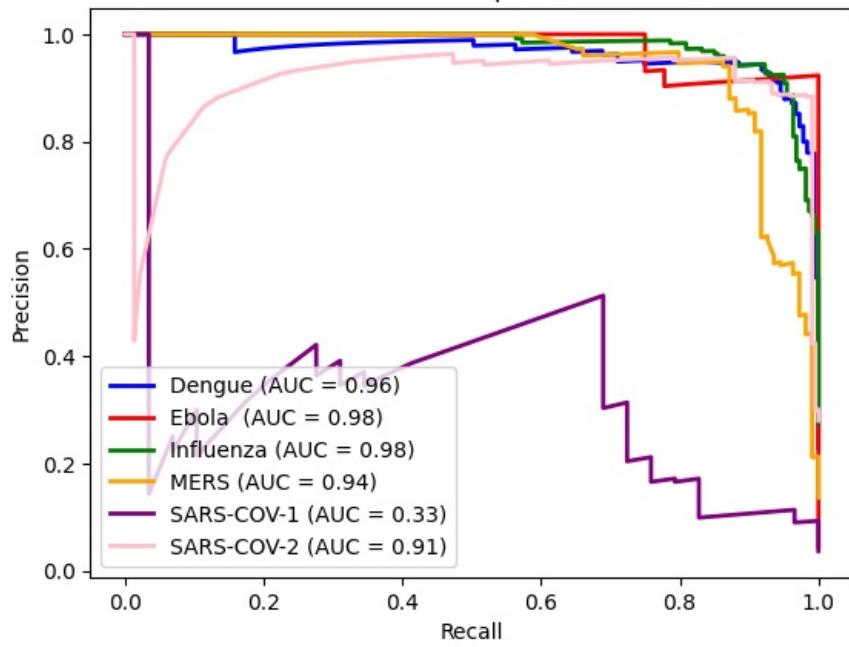


ROC Curve for 4005 samples (50% data), Test Ratio: 20%

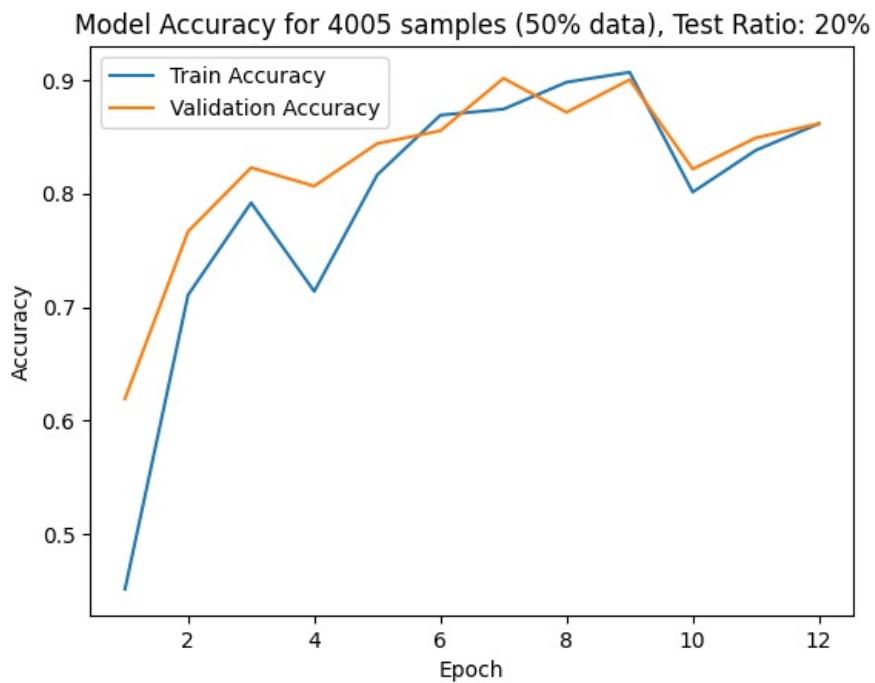


Precision-Recall Curve for 4005 samples (50% data), Test Ratio: 20%

Precision-Recall Curve for 4005 samples (50% data), Test Ratio: 20%

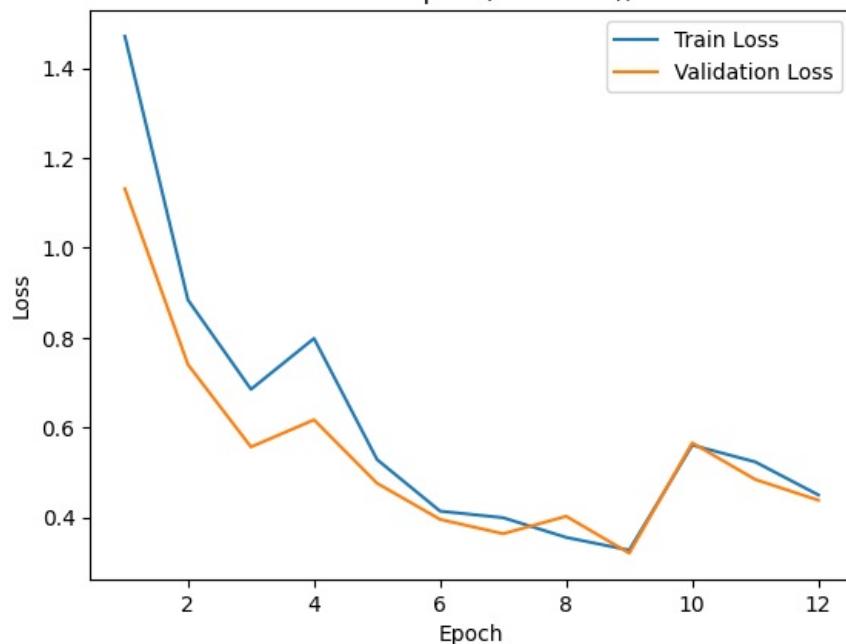


Model Accuracy for 4005 samples (50% data), Test Ratio: 20%



Model Loss for 4005 samples (50% data), Test Ratio: 20%

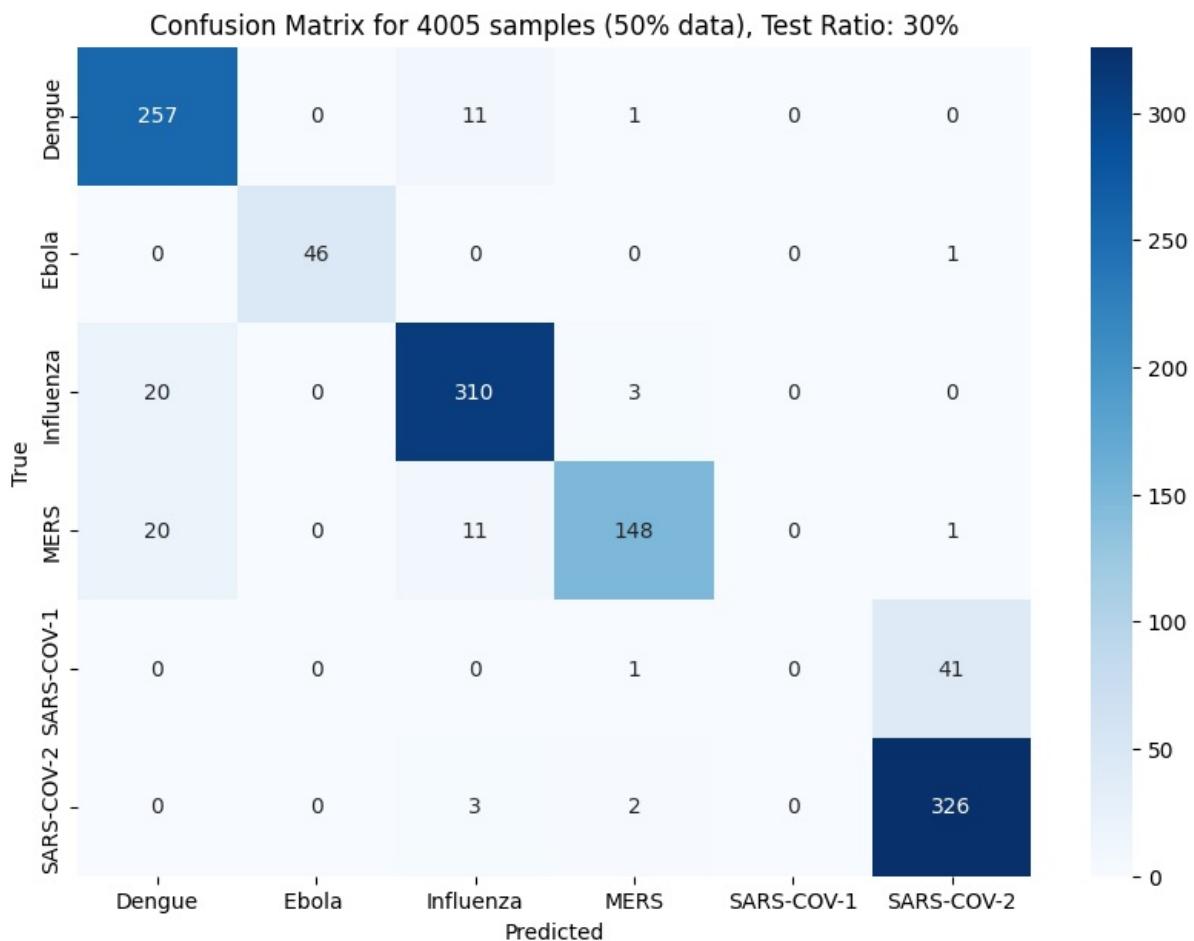
Model Loss for 4005 samples (50% data), Test Ratio: 20%



Data Size: 4005 samples, Test Ratio: 0.3

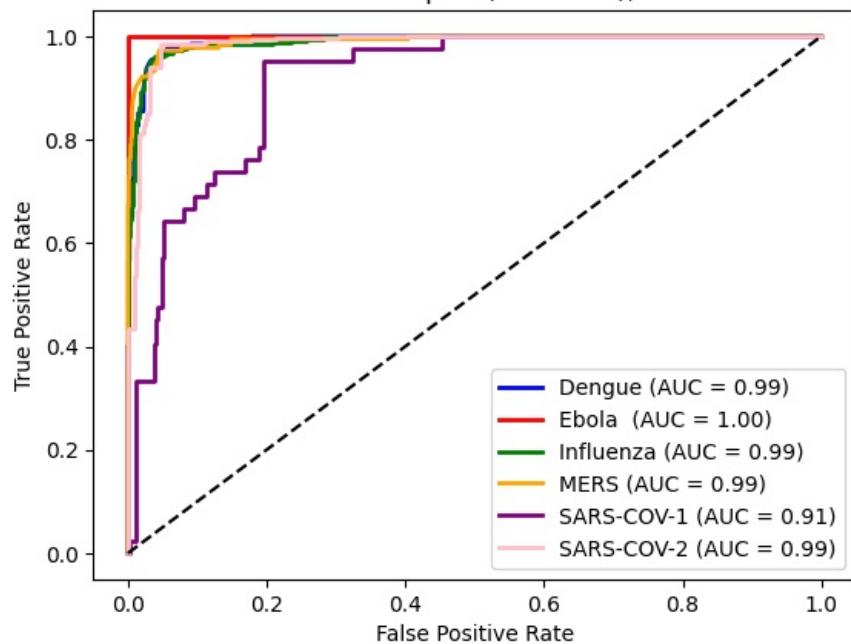
- Accuracy: 0.9043
- Precision: 0.9382
- Recall: 0.7787
- F1_score: 0.7734

Confusion Matrix for 4005 samples (50% data), Test Ratio: 30%

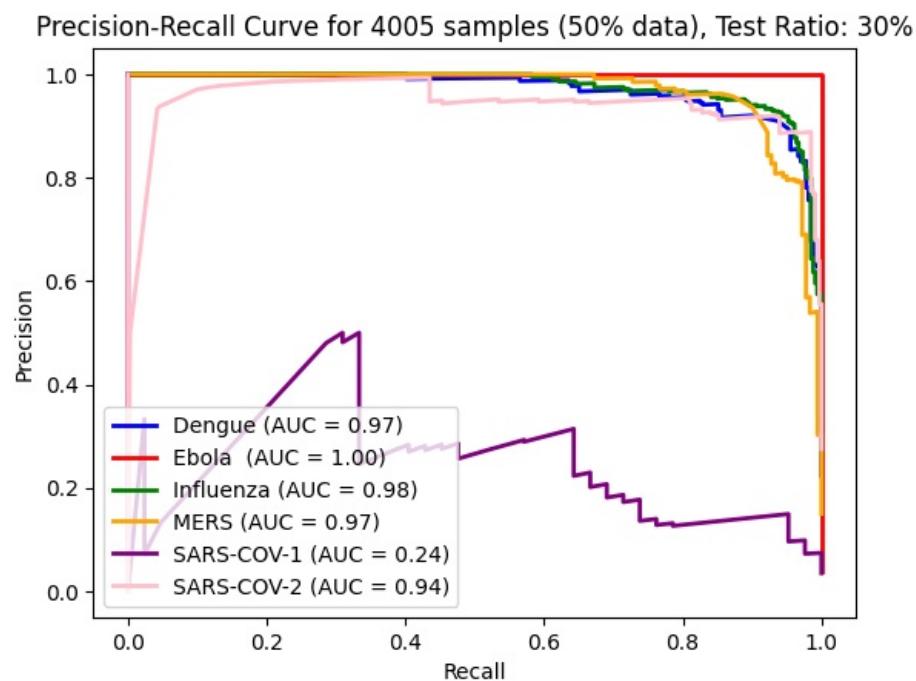


ROC Curve for 4005 samples (50% data), Test Ratio: 30%

ROC Curve for 4005 samples (50% data), Test Ratio: 30%

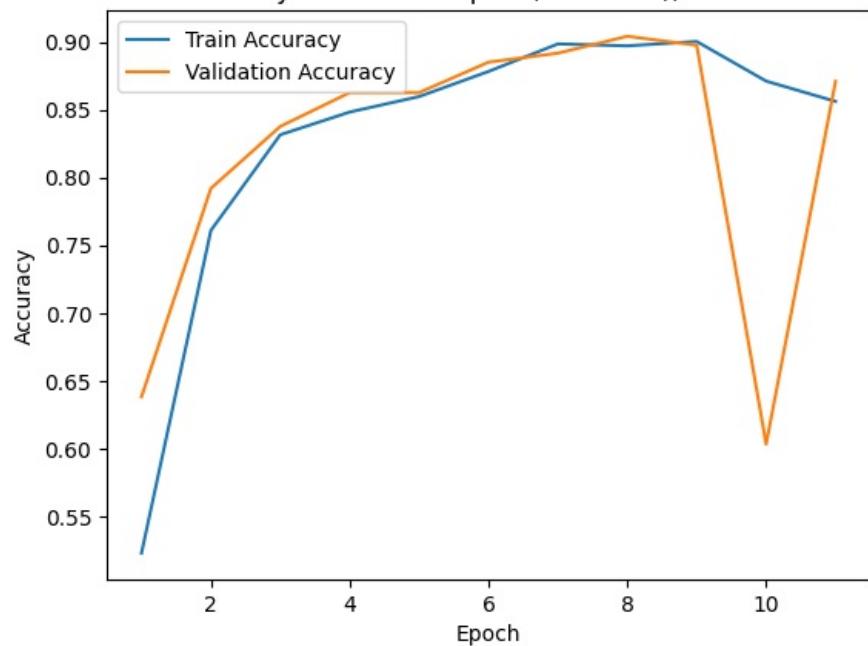


Precision-Recall Curve for 4005 samples (50% data), Test Ratio: 30%

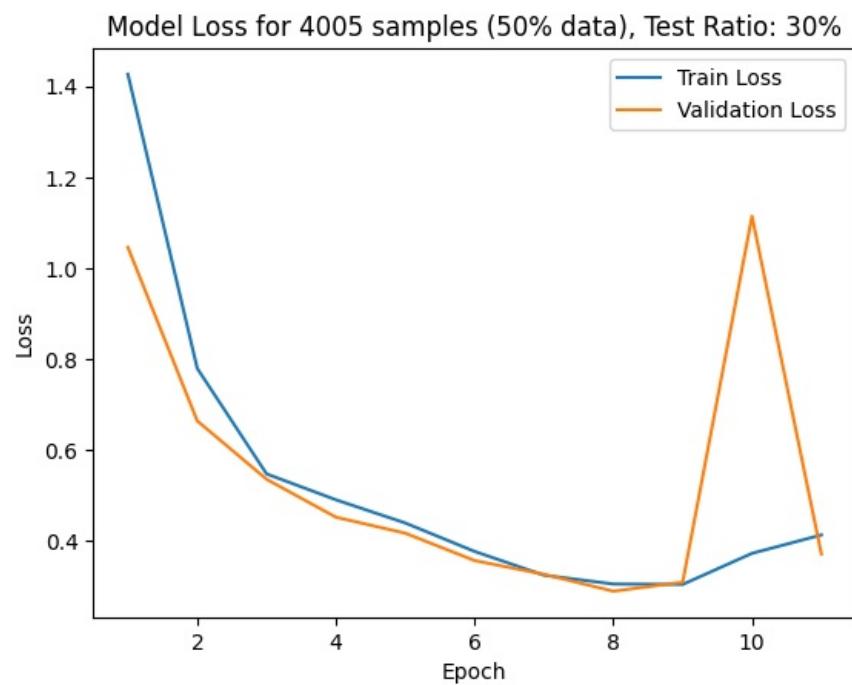


Model Accuracy for 4005 samples (50% data), Test Ratio: 30%

Model Accuracy for 4005 samples (50% data), Test Ratio: 30%



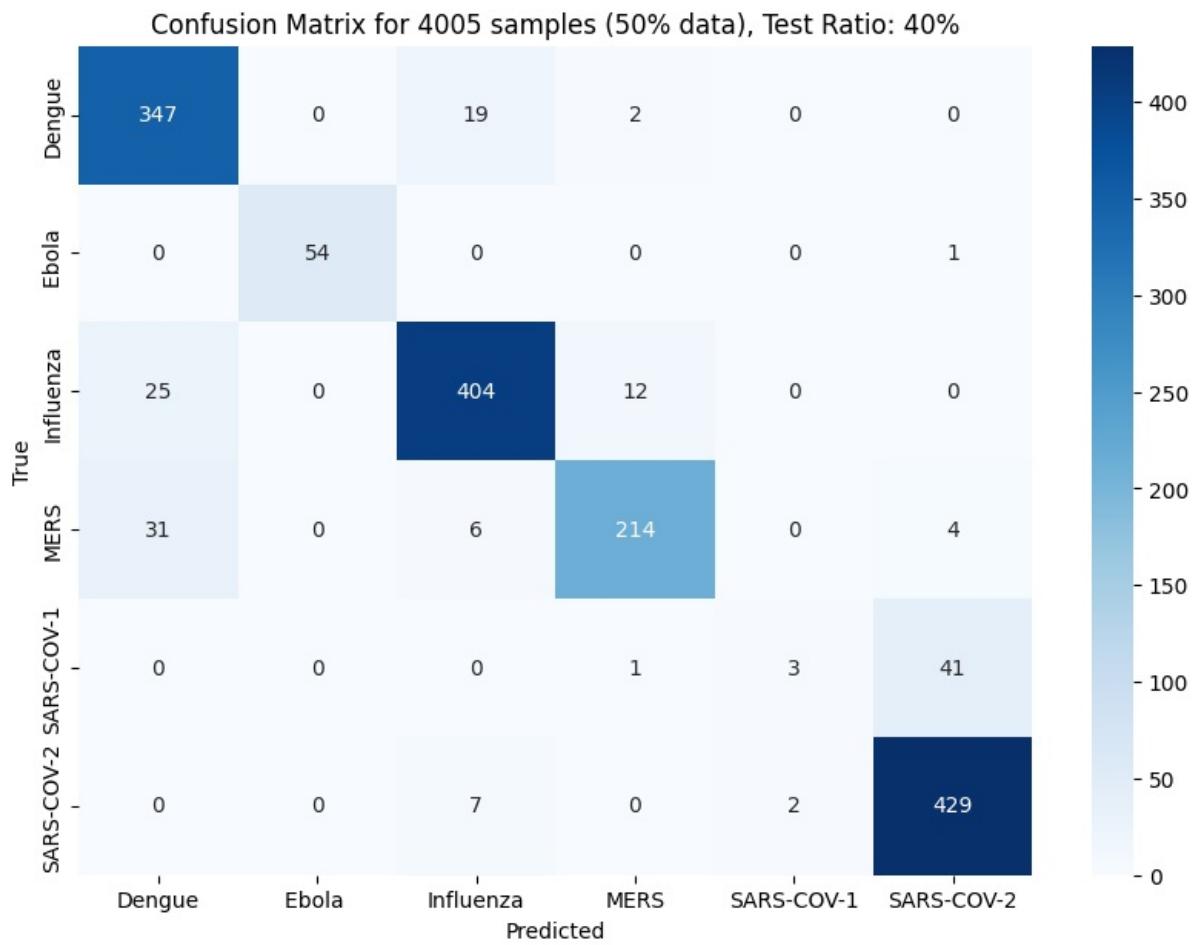
Model Loss for 4005 samples (50% data), Test Ratio: 30%



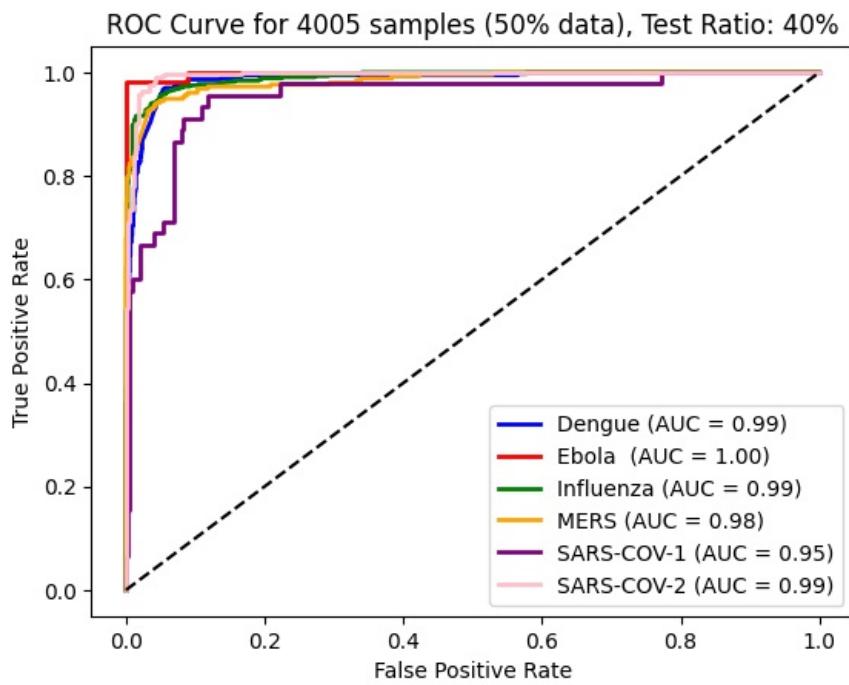
Data Size: 4005 samples, Test Ratio: 0.4

- Accuracy: 0.9057
- Precision: 0.8709
- Recall: 0.7877
- F1_score: 0.7927

Confusion Matrix for 4005 samples (50% data), Test Ratio: 40%

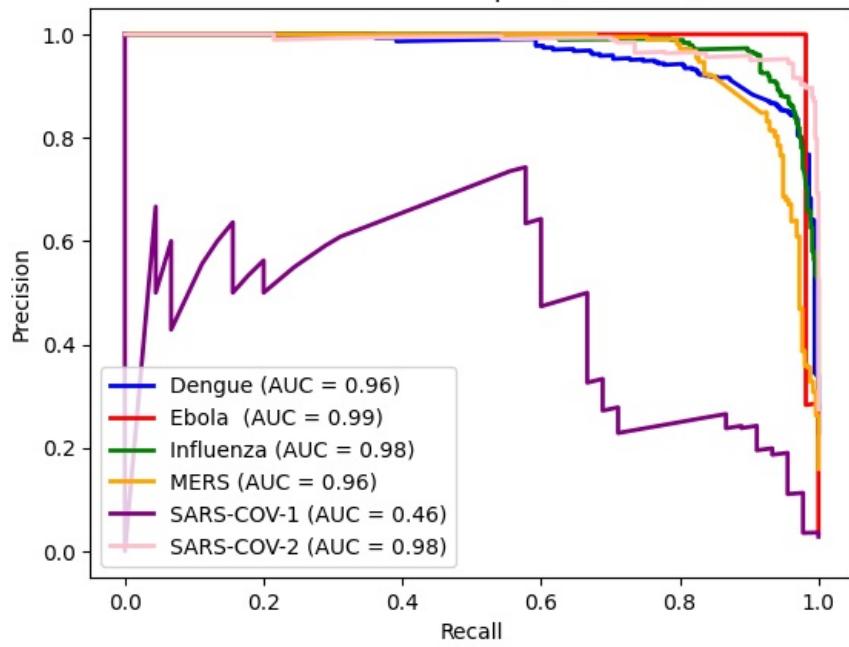


ROC Curve for 4005 samples (50% data), Test Ratio: 40%

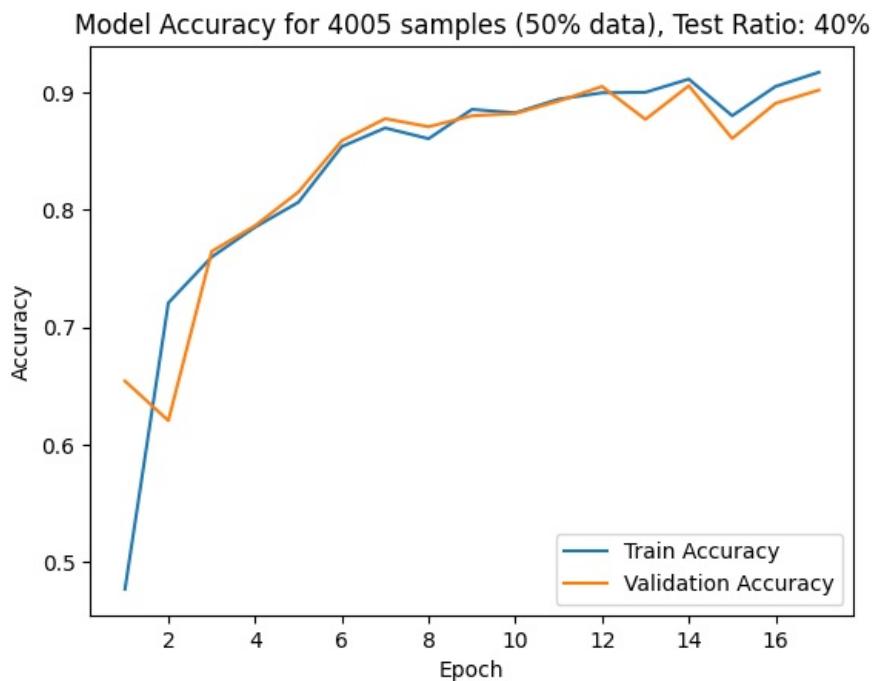


Precision-Recall Curve for 4005 samples (50% data), Test Ratio: 40%

Precision-Recall Curve for 4005 samples (50% data), Test Ratio: 40%

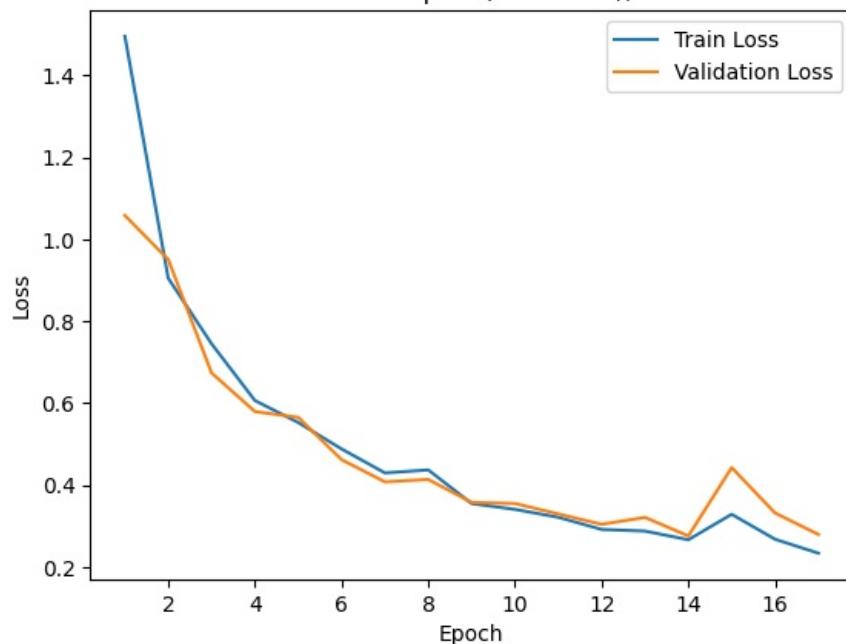


Model Accuracy for 4005 samples (50% data), Test Ratio: 40%



Model Loss for 4005 samples (50% data), Test Ratio: 40%

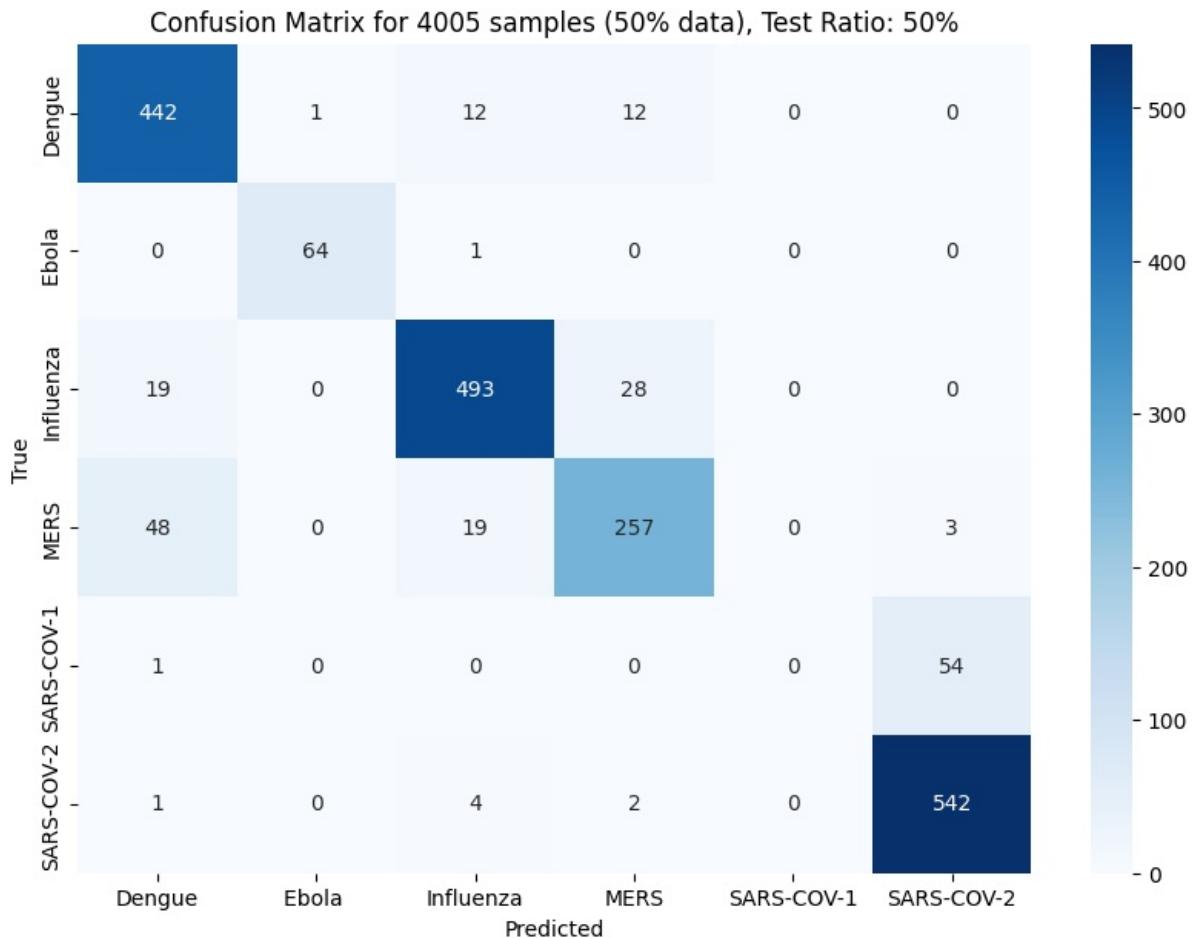
Model Loss for 4005 samples (50% data), Test Ratio: 40%



Data Size: 4005 samples, Test Ratio: 0.5

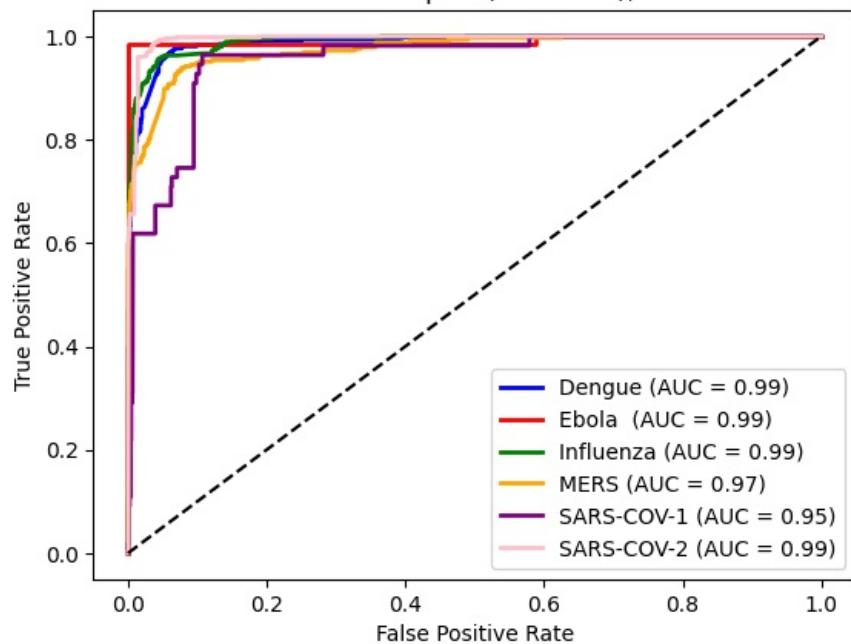
- Accuracy: 0.8977
- Precision: 0.9243
- Recall: 0.7695
- F1_score: 0.7627

Confusion Matrix for 4005 samples (50% data), Test Ratio: 50%

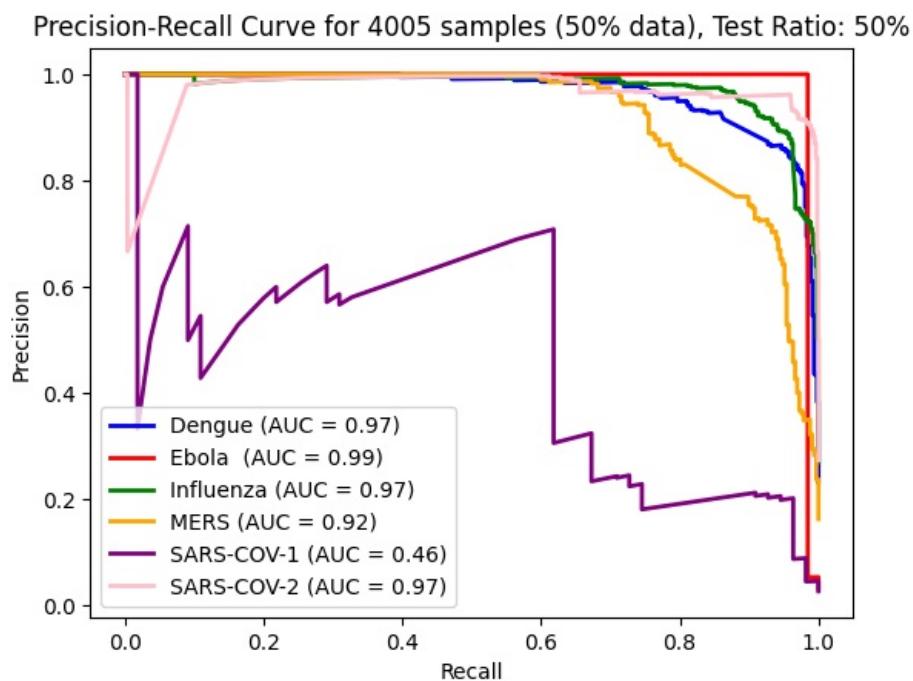


ROC Curve for 4005 samples (50% data), Test Ratio: 50%

ROC Curve for 4005 samples (50% data), Test Ratio: 50%

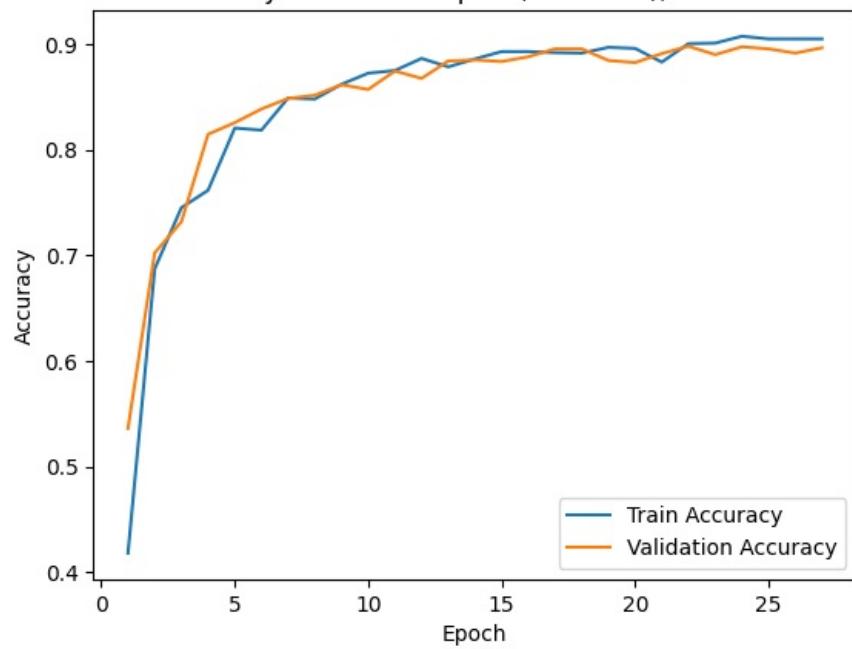


Precision-Recall Curve for 4005 samples (50% data), Test Ratio: 50%

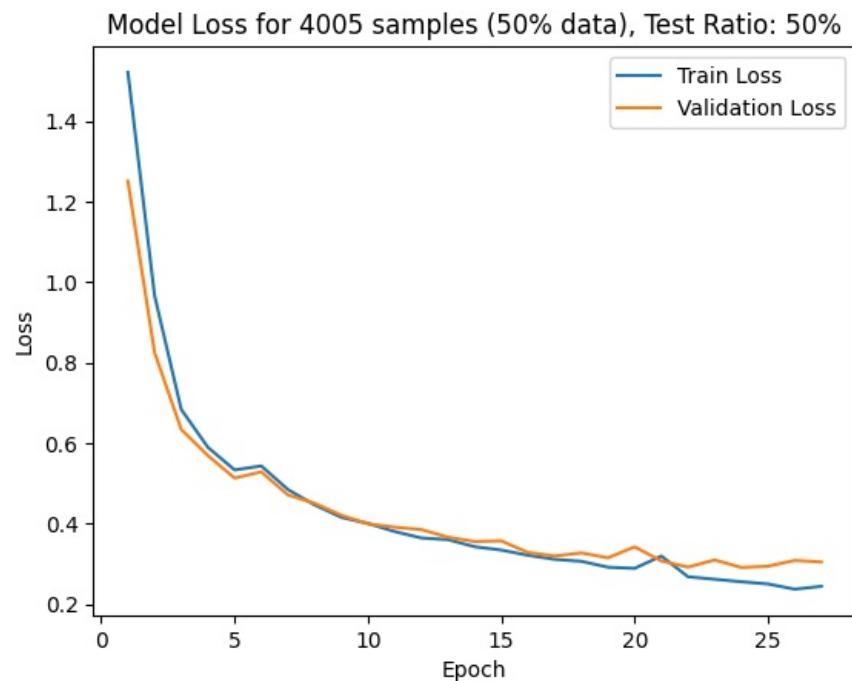


Model Accuracy for 4005 samples (50% data), Test Ratio: 50%

Model Accuracy for 4005 samples (50% data), Test Ratio: 50%



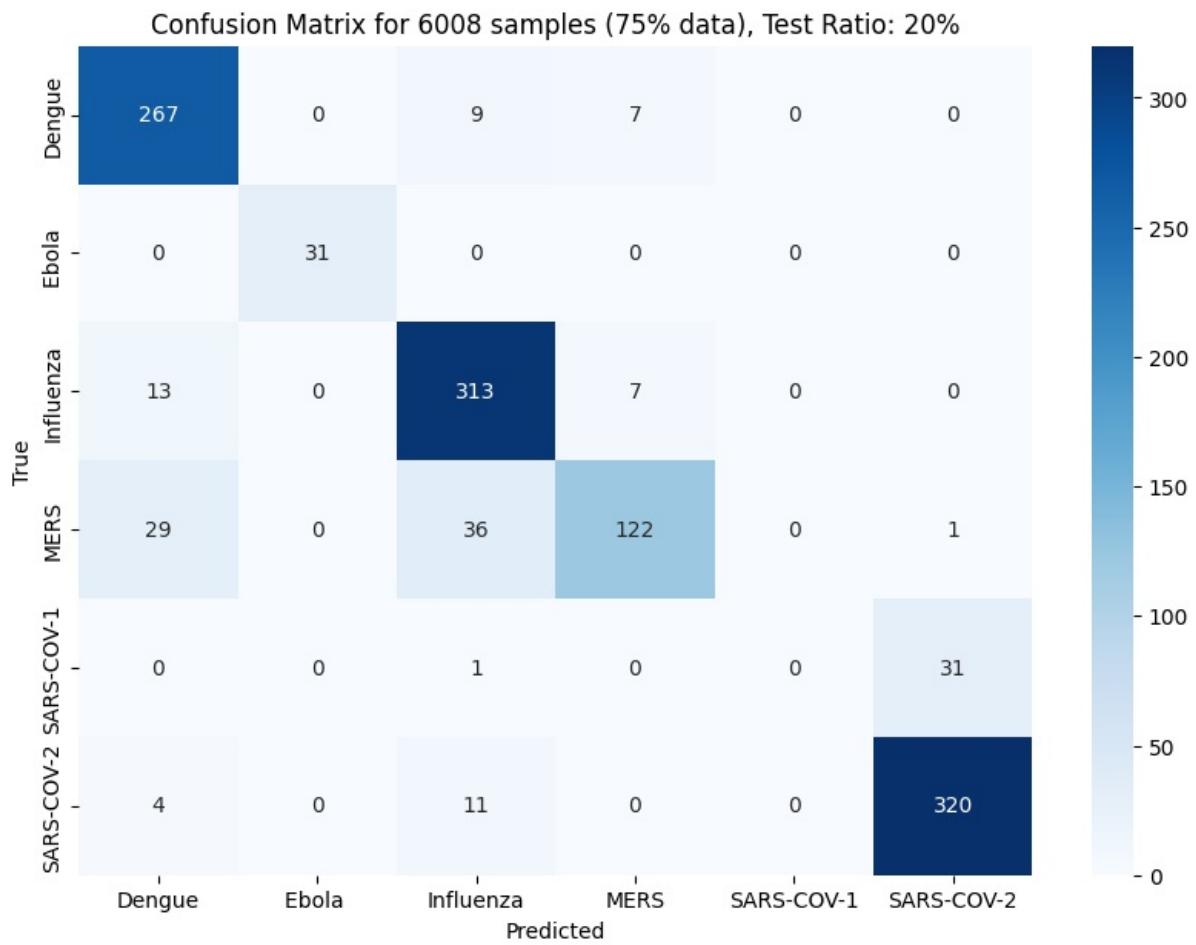
Model Loss for 4005 samples (50% data), Test Ratio: 50%



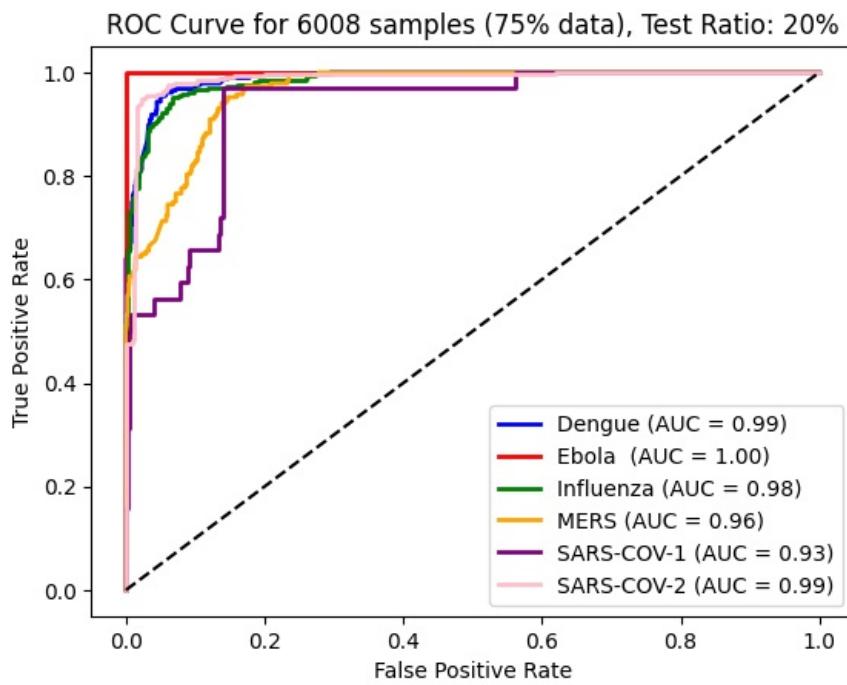
Data Size: 6008 samples, Test Ratio: 0.2

- Accuracy: 0.8760
- Precision: 0.9175
- Recall: 0.7479
- F1_score: 0.7452

Confusion Matrix for 6008 samples (75% data), Test Ratio: 20%

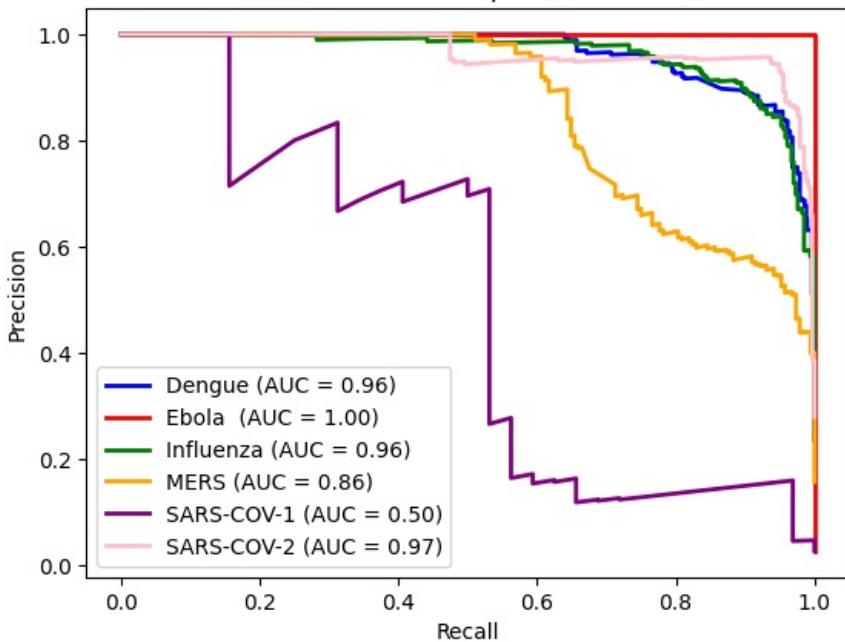


ROC Curve for 6008 samples (75% data), Test Ratio: 20%

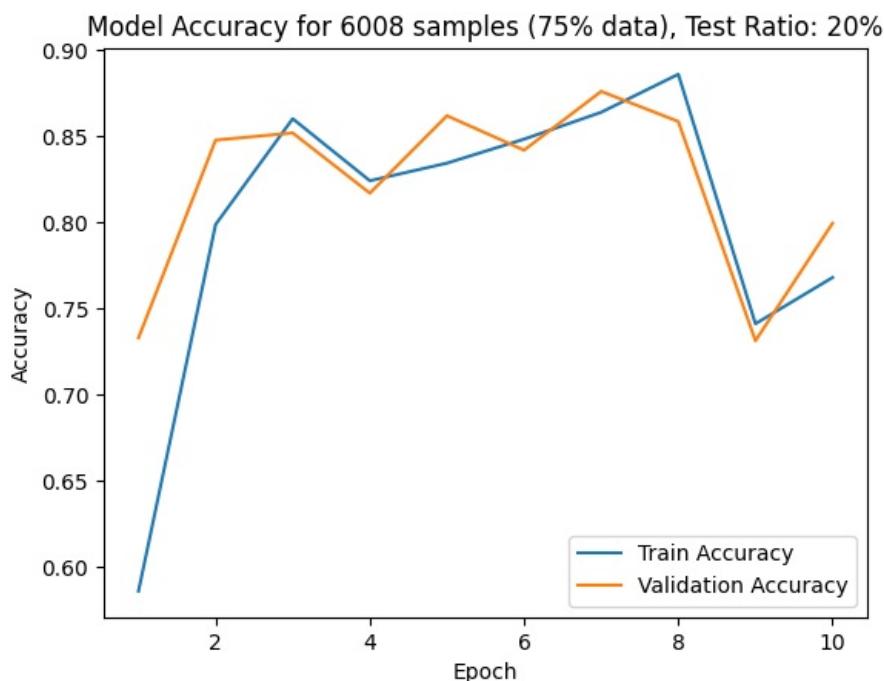


Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 20%

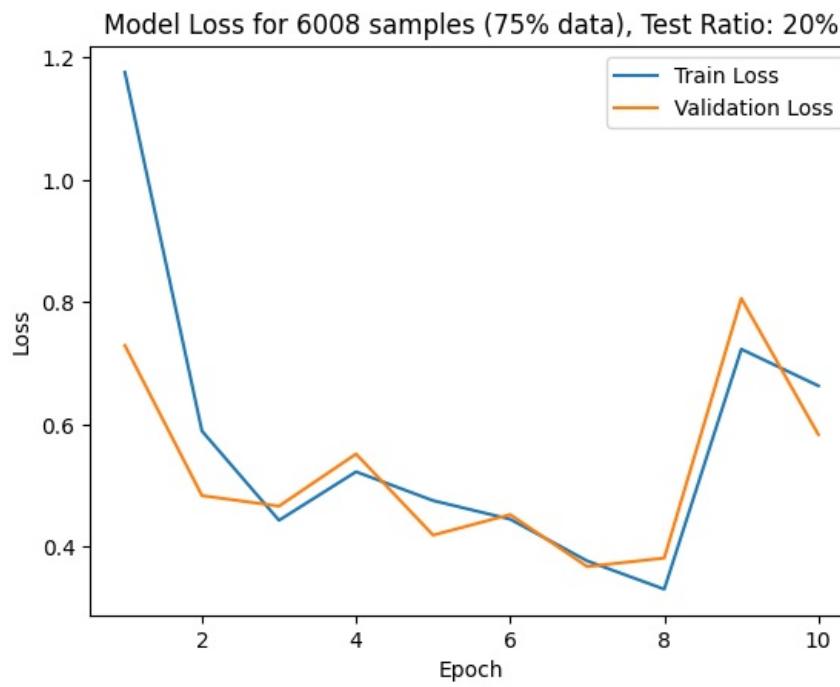
Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 20%



Model Accuracy for 6008 samples (75% data), Test Ratio: 20%



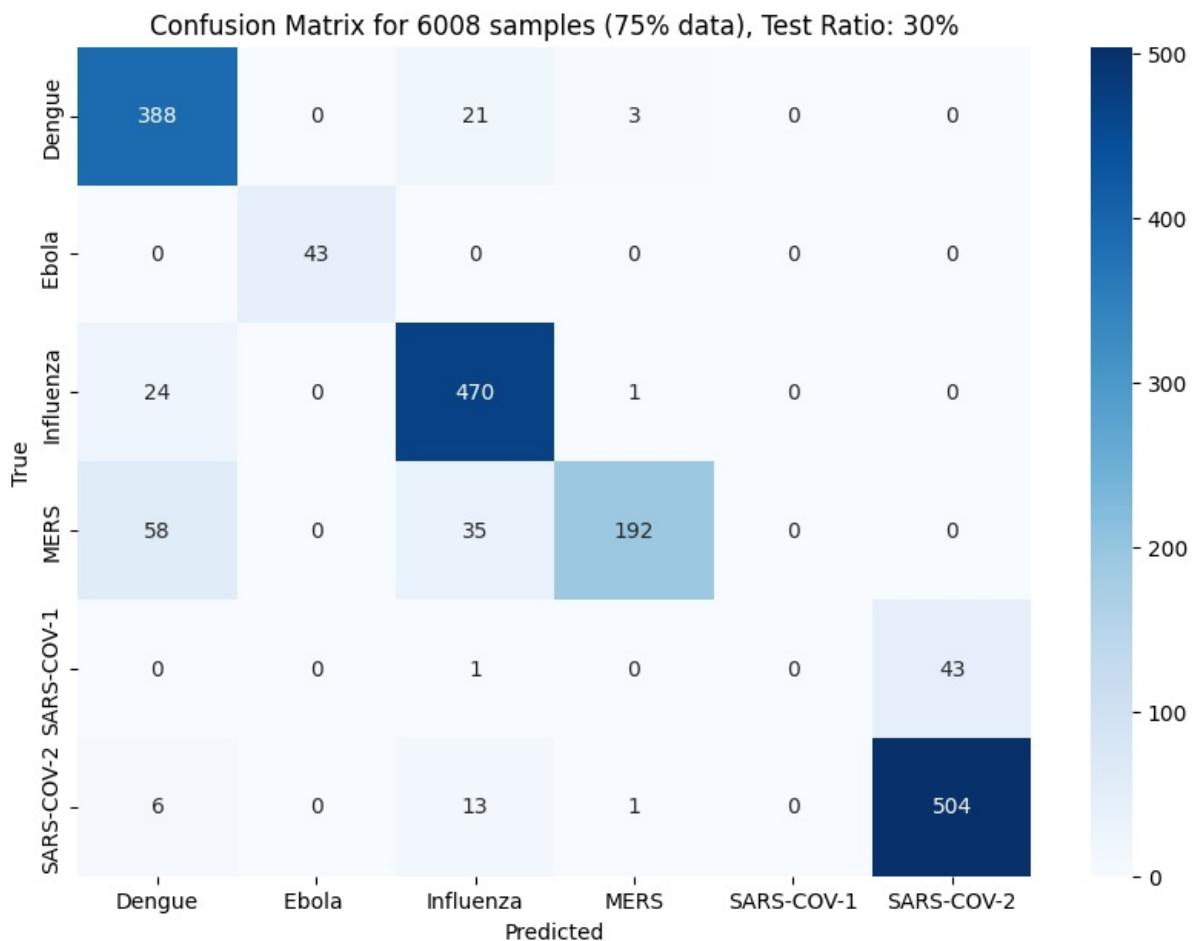
Model Loss for 6008 samples (75% data), Test Ratio: 20%



Data Size: 6008 samples, Test Ratio: 0.3

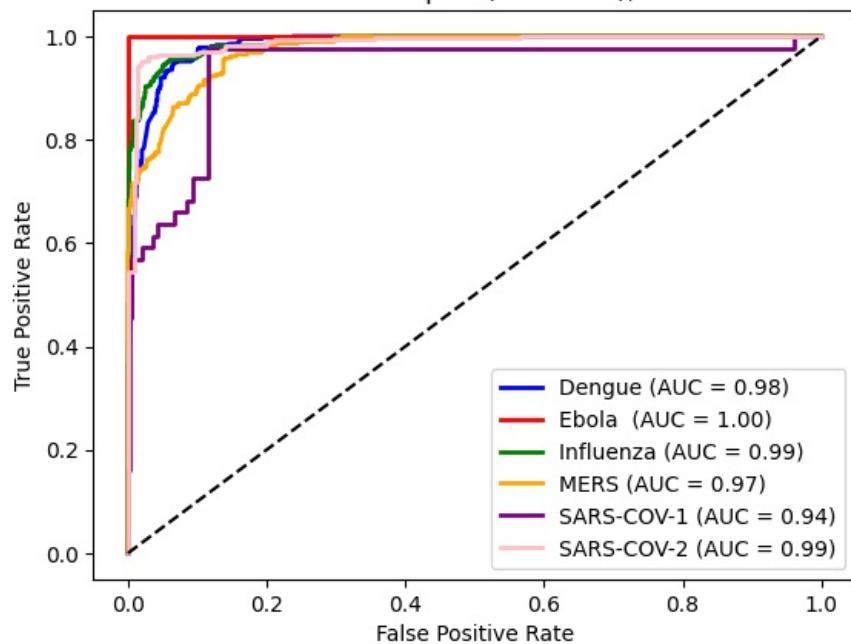
- Accuracy: 0.8857
- Precision: 0.9303
- Recall: 0.7545
- F1_score: 0.7533

Confusion Matrix for 6008 samples (75% data), Test Ratio: 30%

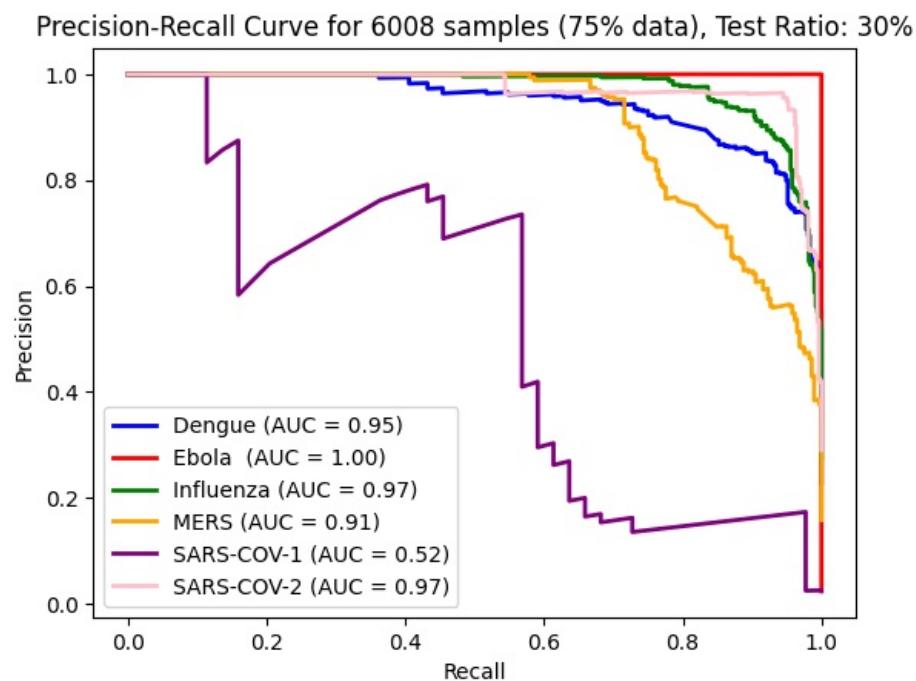


ROC Curve for 6008 samples (75% data), Test Ratio: 30%

ROC Curve for 6008 samples (75% data), Test Ratio: 30%

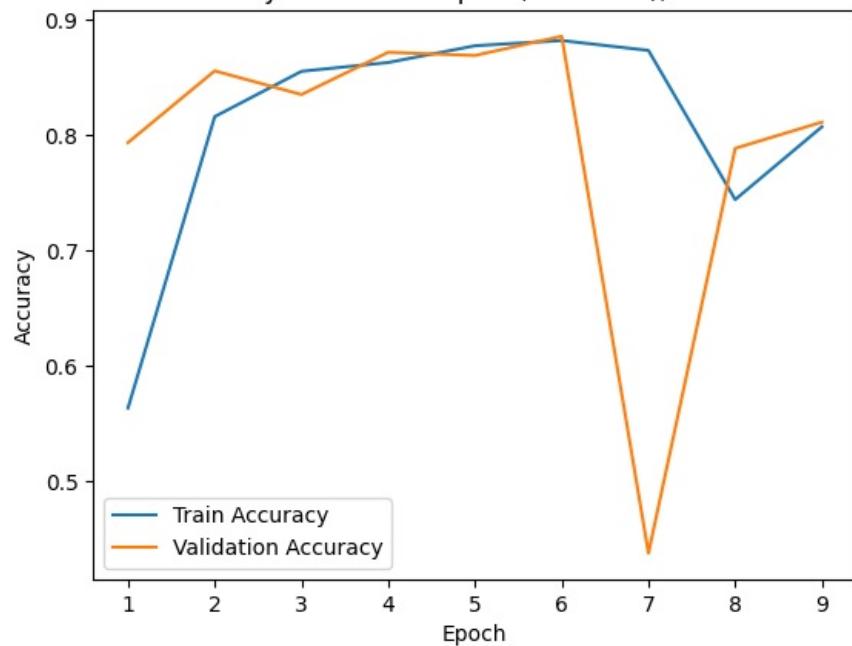


Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 30%

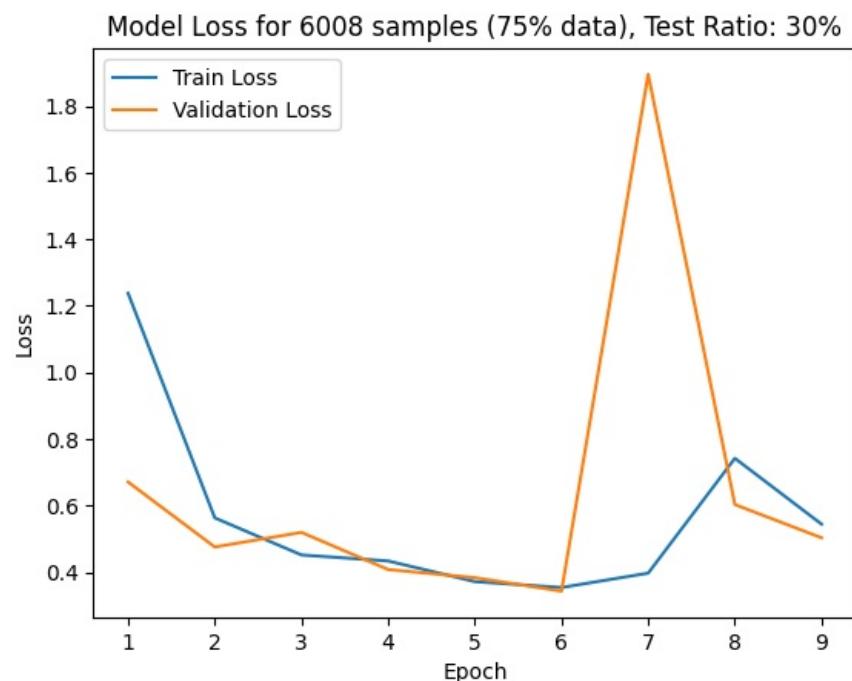


Model Accuracy for 6008 samples (75% data), Test Ratio: 30%

Model Accuracy for 6008 samples (75% data), Test Ratio: 30%



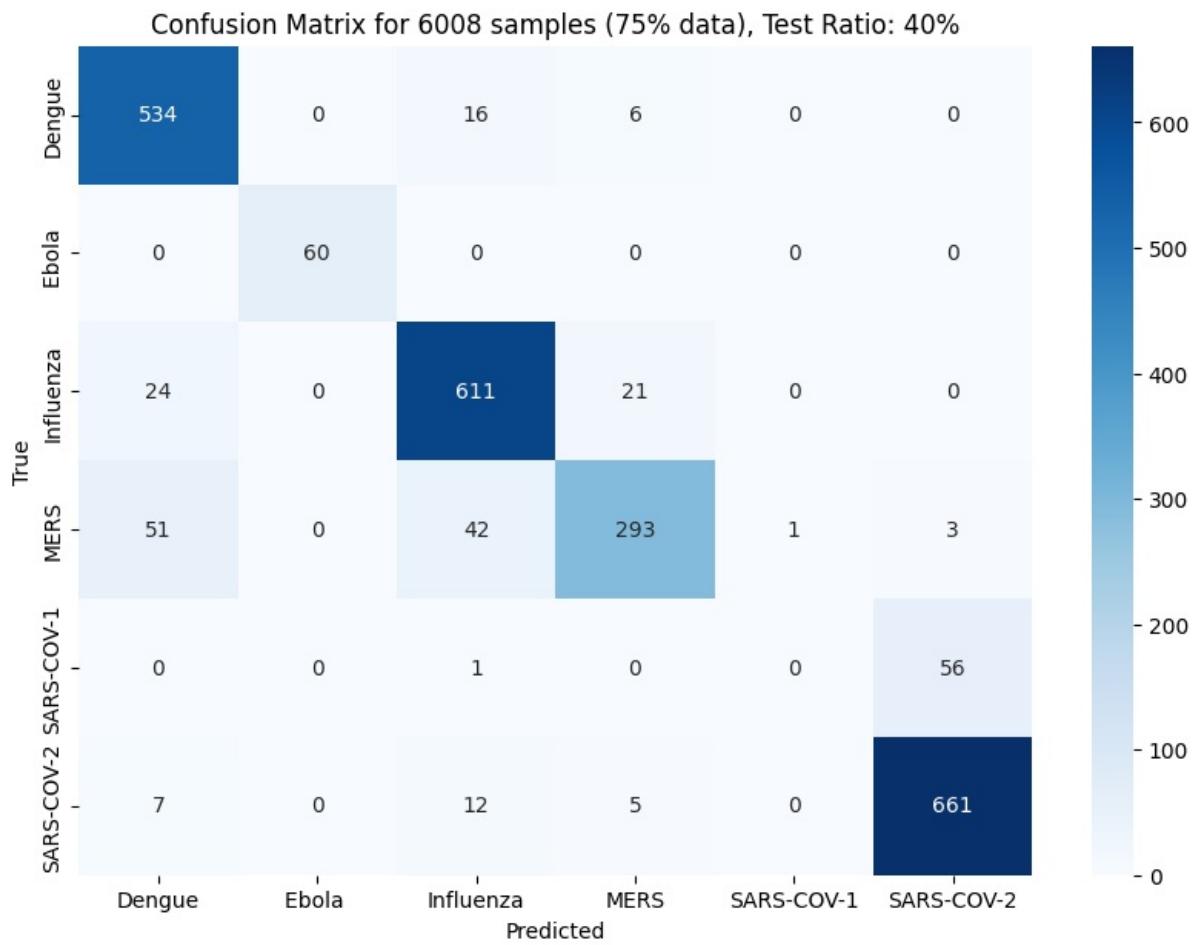
Model Loss for 6008 samples (75% data), Test Ratio: 30%



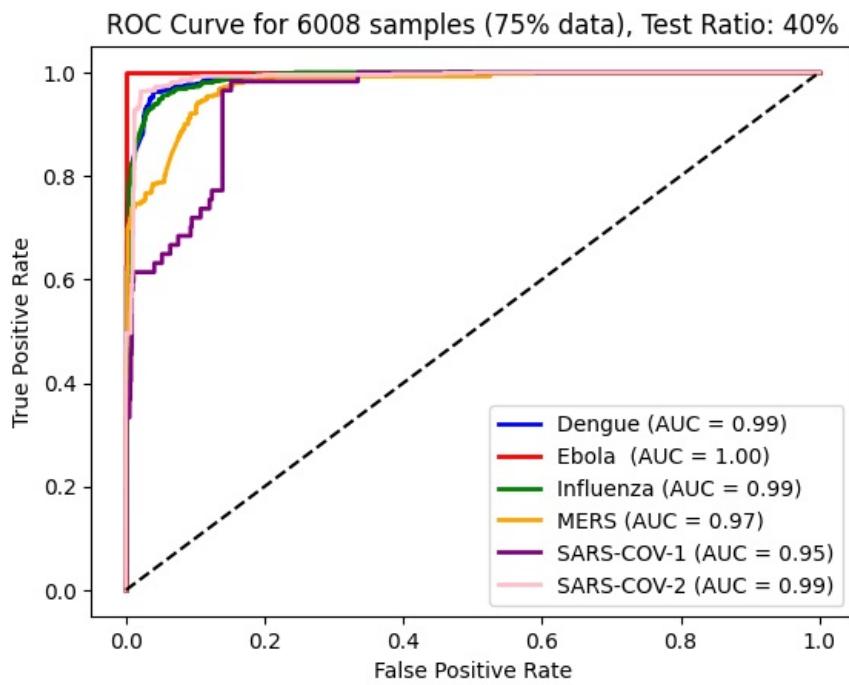
Data Size: 6008 samples, Test Ratio: 0.4

- Accuracy: 0.8981
- Precision: 0.7637
- Recall: 0.7680
- F1_score: 0.7642

Confusion Matrix for 6008 samples (75% data), Test Ratio: 40%

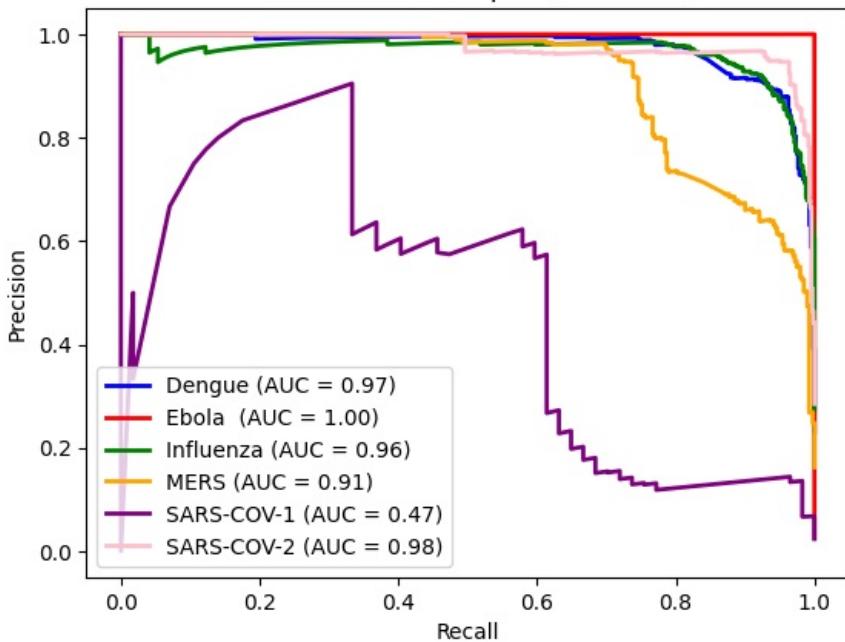


ROC Curve for 6008 samples (75% data), Test Ratio: 40%

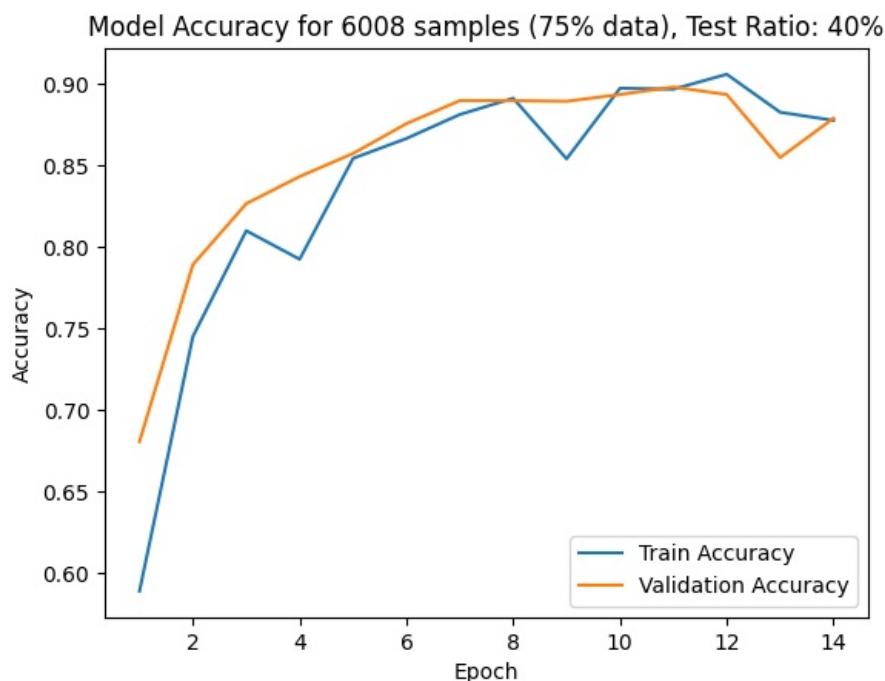


Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 40%

Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 40%

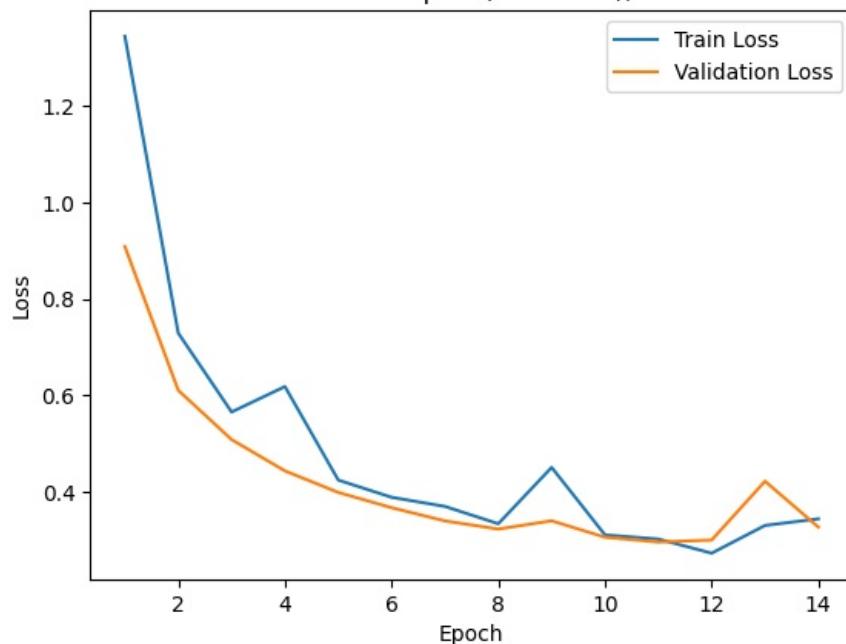


Model Accuracy for 6008 samples (75% data), Test Ratio: 40%



Model Loss for 6008 samples (75% data), Test Ratio: 40%

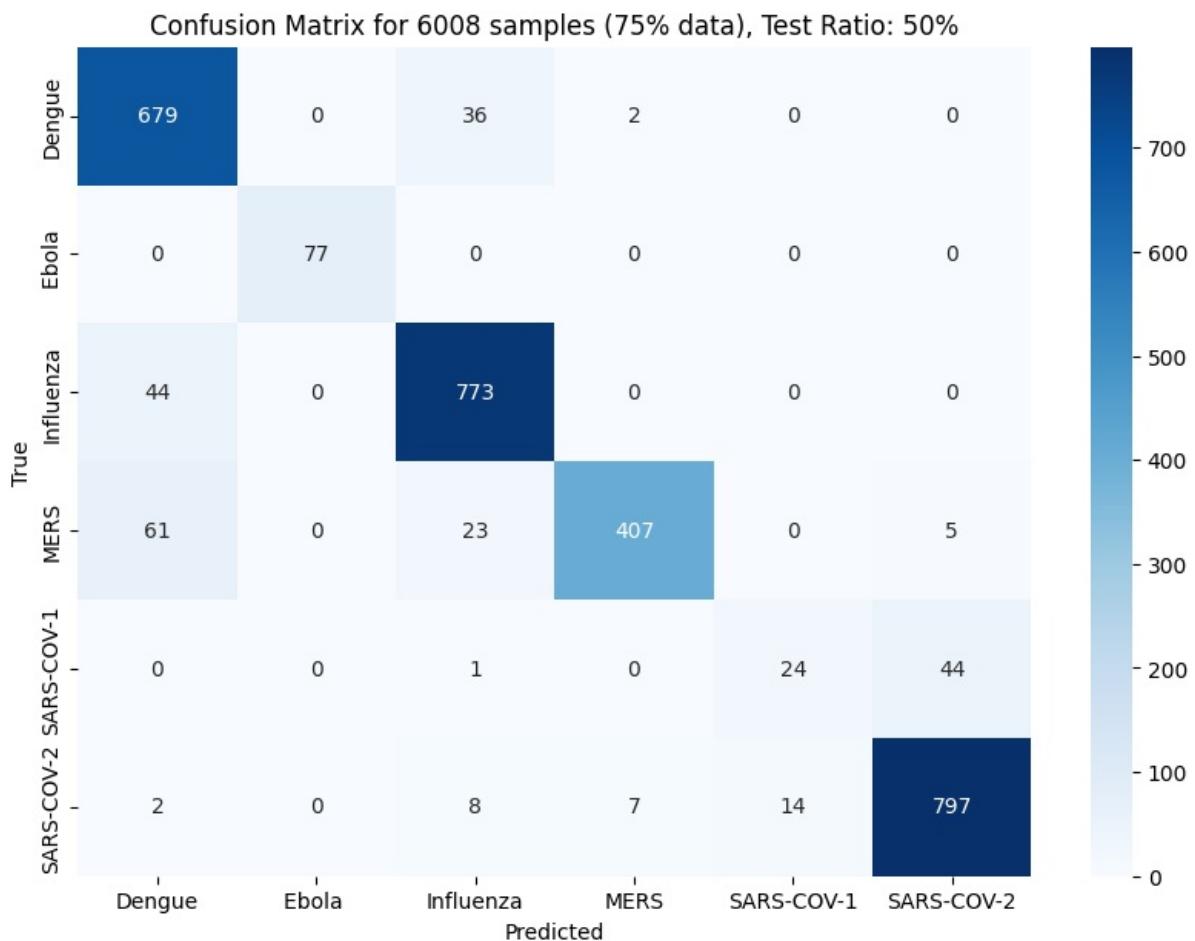
Model Loss for 6008 samples (75% data), Test Ratio: 40%



Data Size: 6008 samples, Test Ratio: 0.5

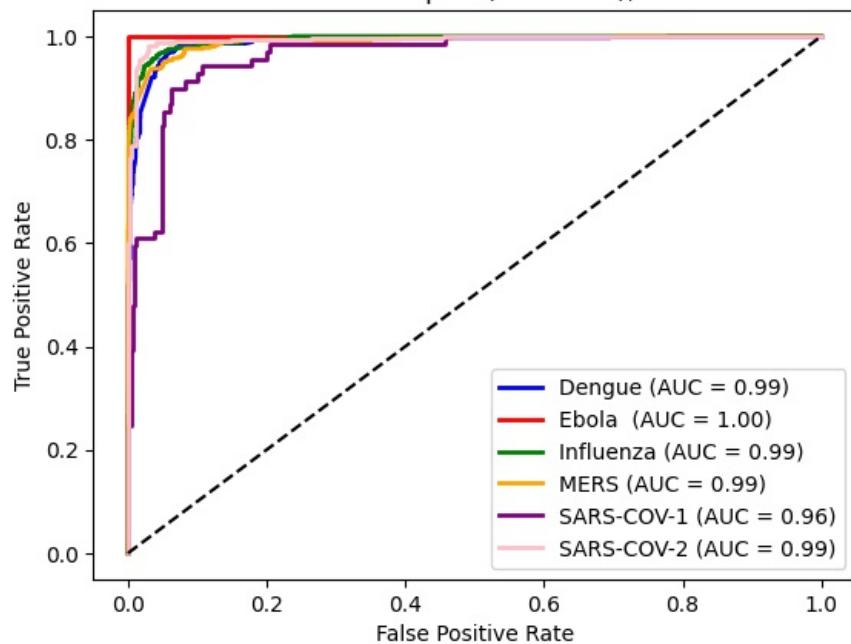
- Accuracy: 0.9178
- Precision: 0.8892
- Recall: 0.8373
- F1_score: 0.8549

Confusion Matrix for 6008 samples (75% data), Test Ratio: 50%

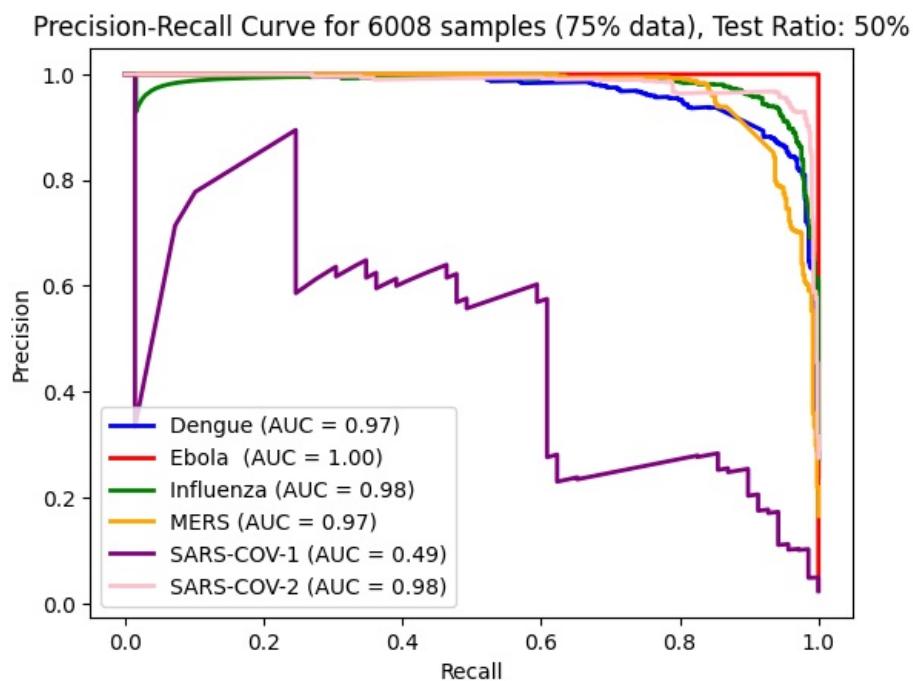


ROC Curve for 6008 samples (75% data), Test Ratio: 50%

ROC Curve for 6008 samples (75% data), Test Ratio: 50%

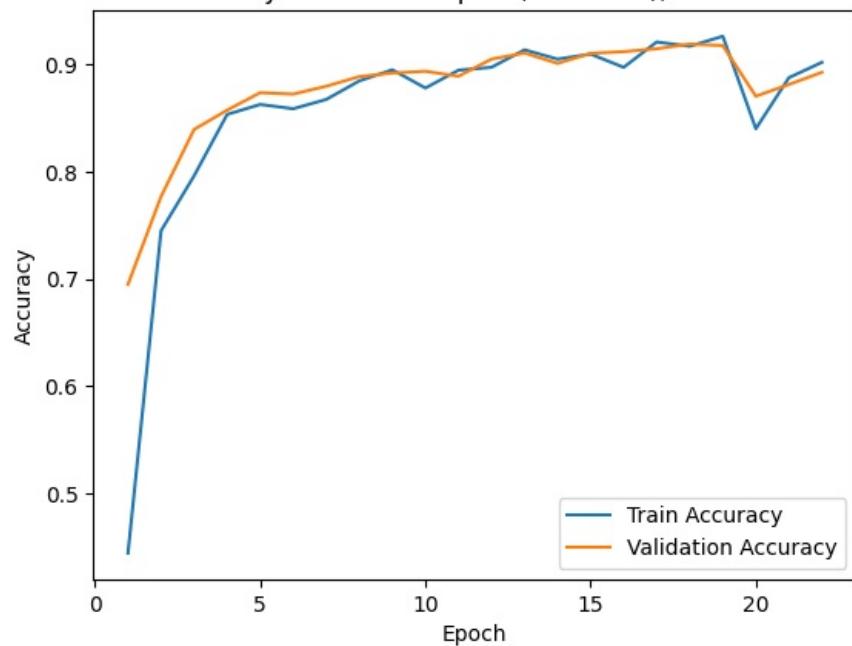


Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 50%

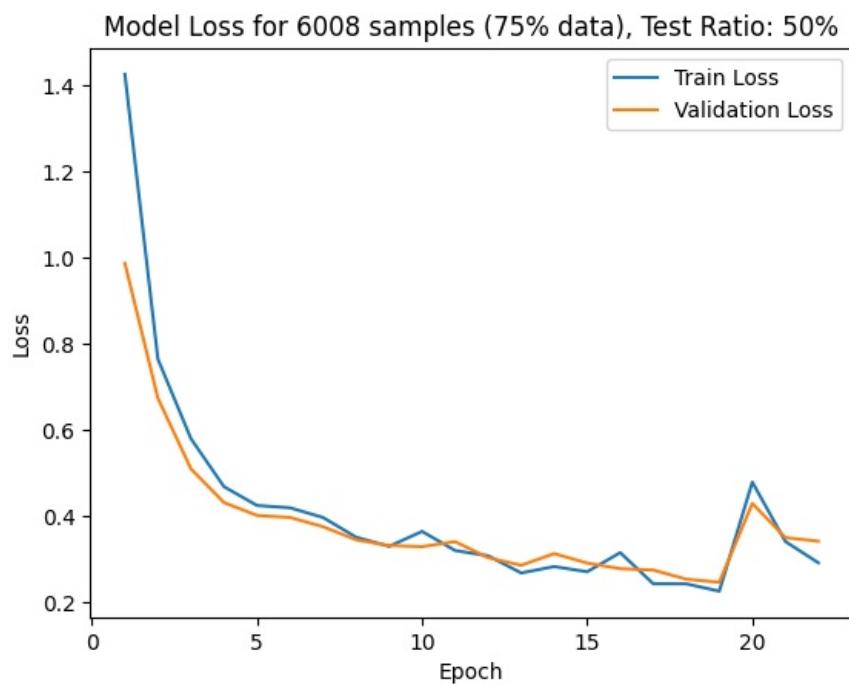


Model Accuracy for 6008 samples (75% data), Test Ratio: 50%

Model Accuracy for 6008 samples (75% data), Test Ratio: 50%



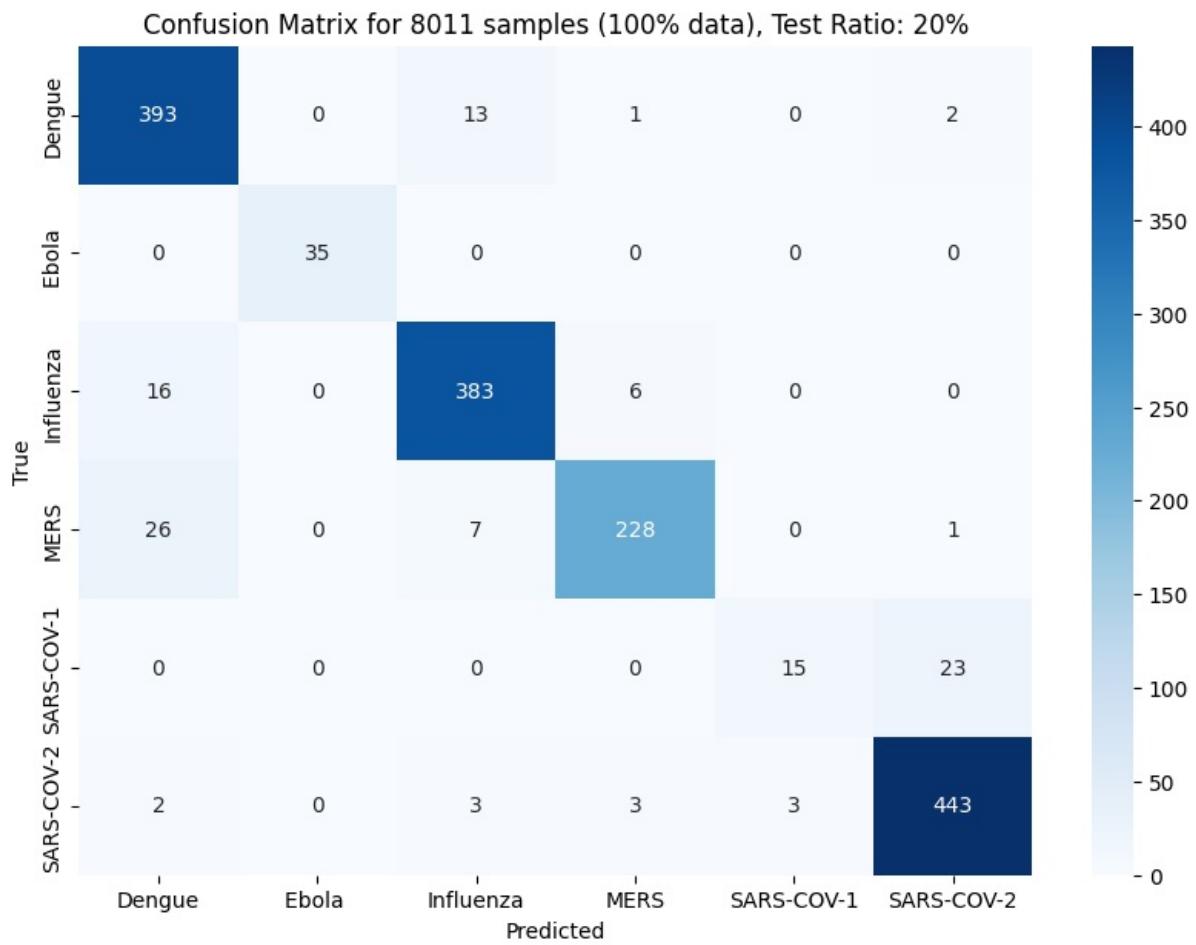
Model Loss for 6008 samples (75% data), Test Ratio: 50%



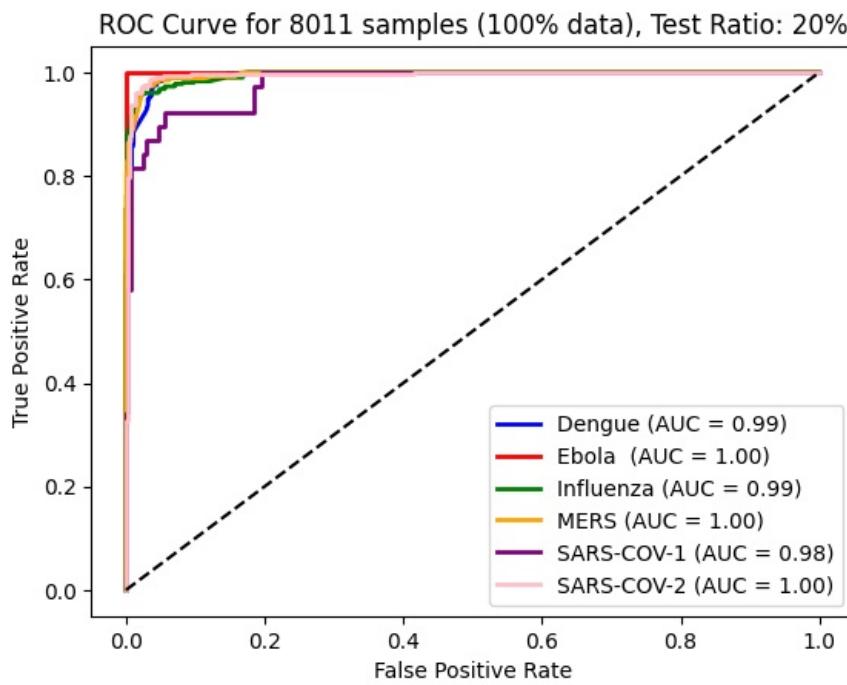
Data Size: 8011 samples, Test Ratio: 0.2

- Accuracy: 0.9339
- Precision: 0.9298
- Recall: 0.8579
- F1_score: 0.8802

Confusion Matrix for 8011 samples (100% data), Test Ratio: 20%

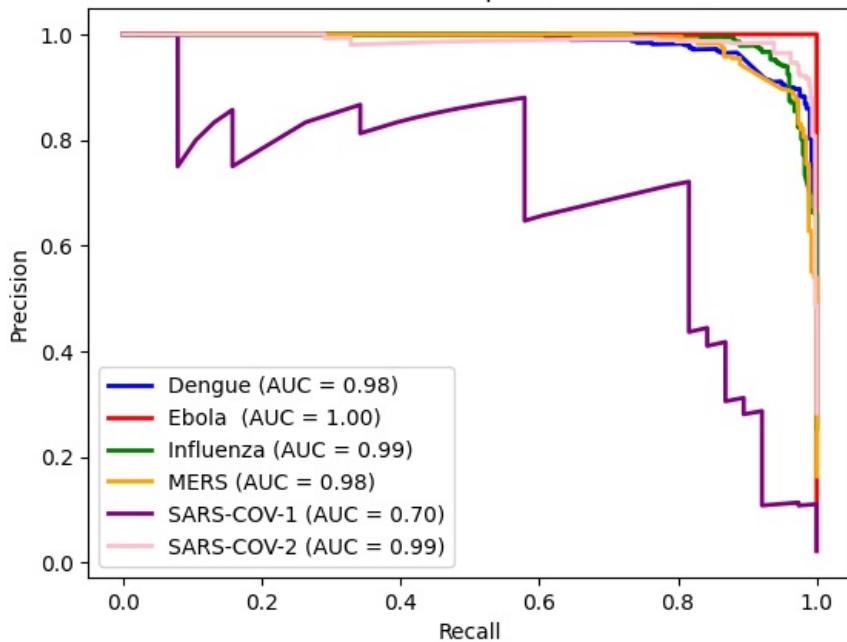


ROC Curve for 8011 samples (100% data), Test Ratio: 20%

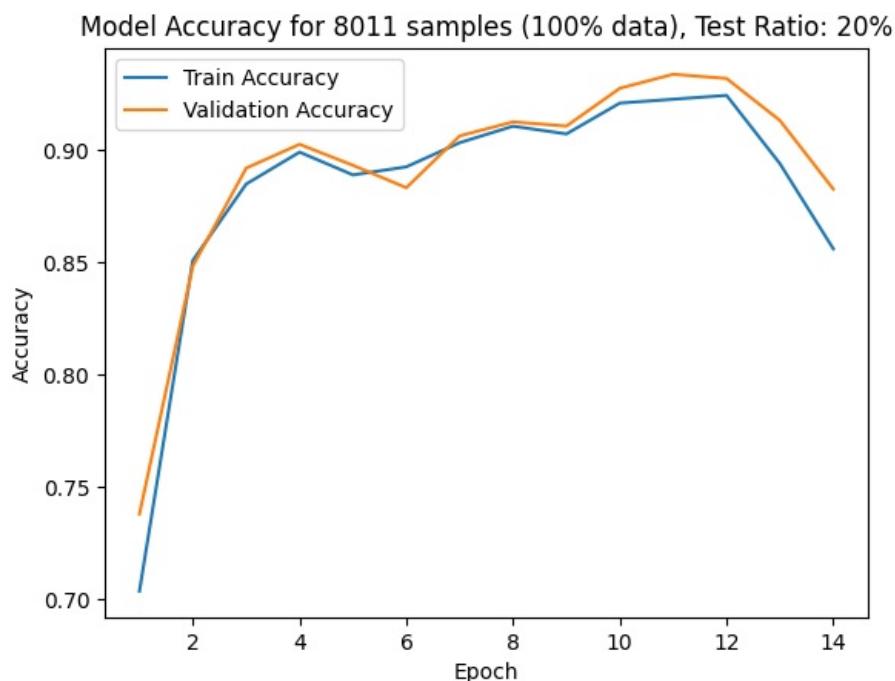


Precision-Recall Curve for 8011 samples (100% data), Test Ratio: 20%

Precision-Recall Curve for 8011 samples (100% data), Test Ratio: 20%

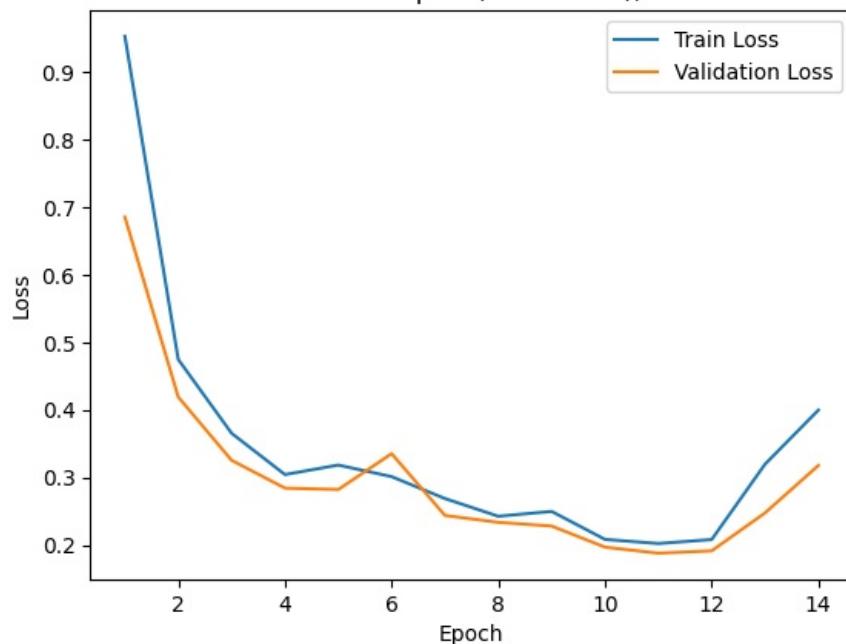


Model Accuracy for 8011 samples (100% data), Test Ratio: 20%



Model Loss for 8011 samples (100% data), Test Ratio: 20%

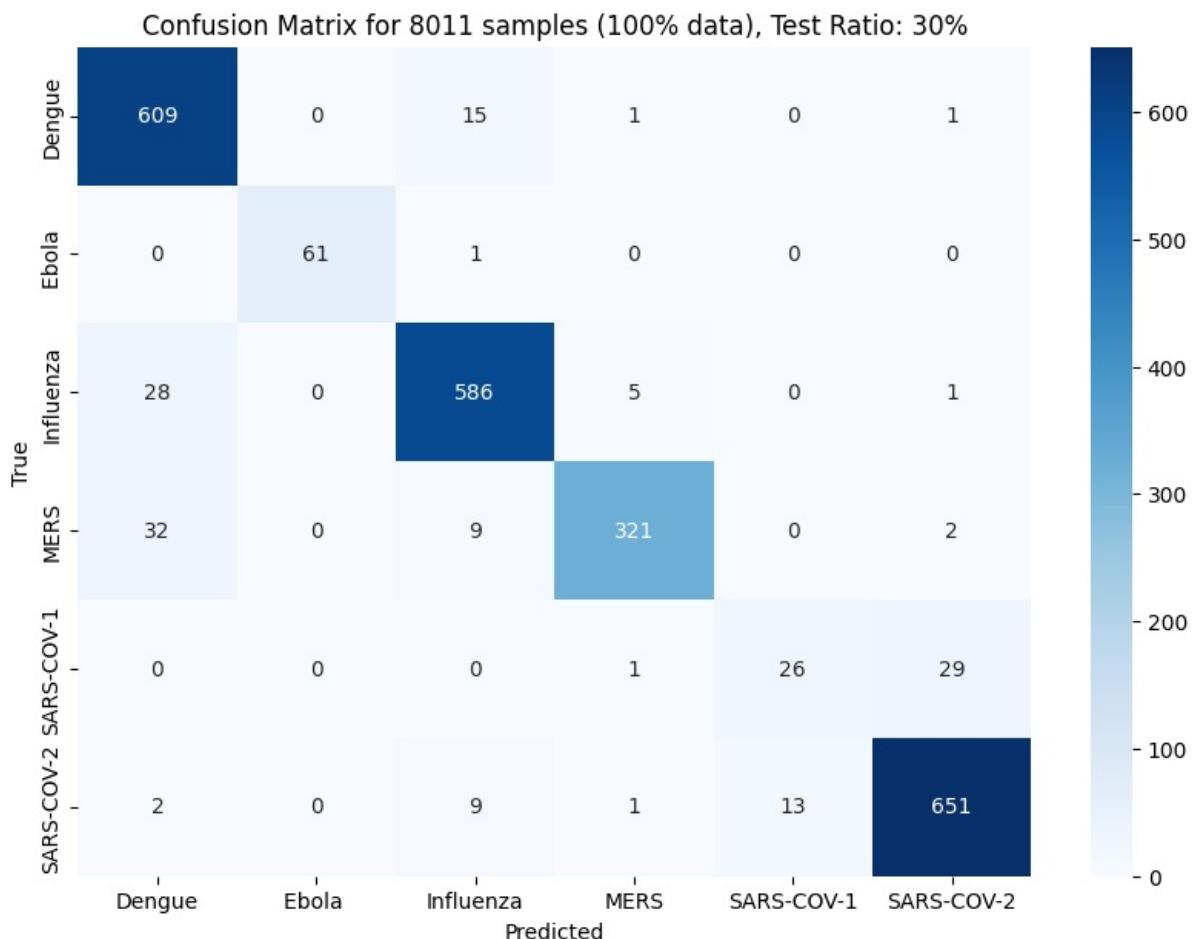
Model Loss for 8011 samples (100% data), Test Ratio: 20%



Data Size: 8011 samples, Test Ratio: 0.3

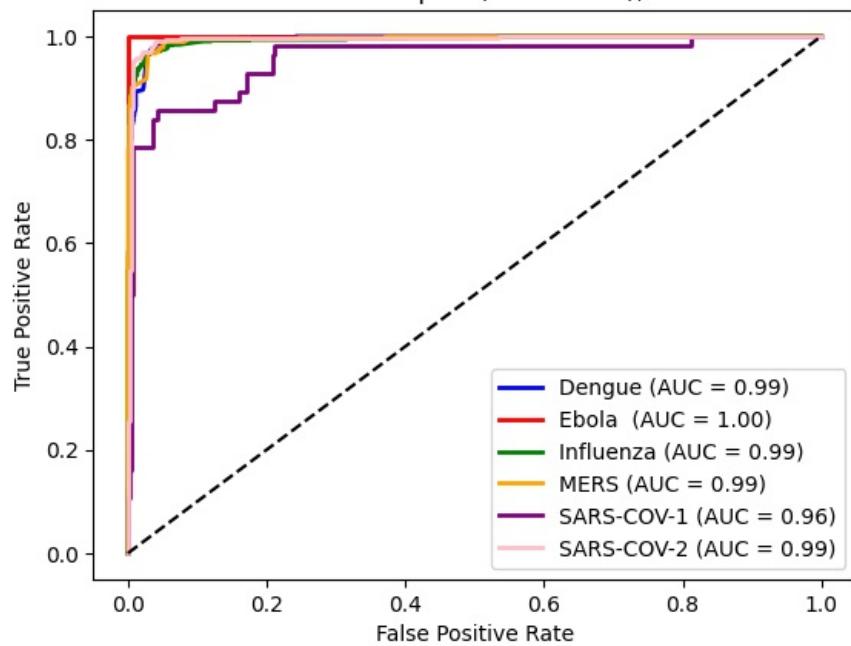
- Accuracy: 0.9376
- Precision: 0.9078
- Recall: 0.8685
- F1_score: 0.8845

Confusion Matrix for 8011 samples (100% data), Test Ratio: 30%

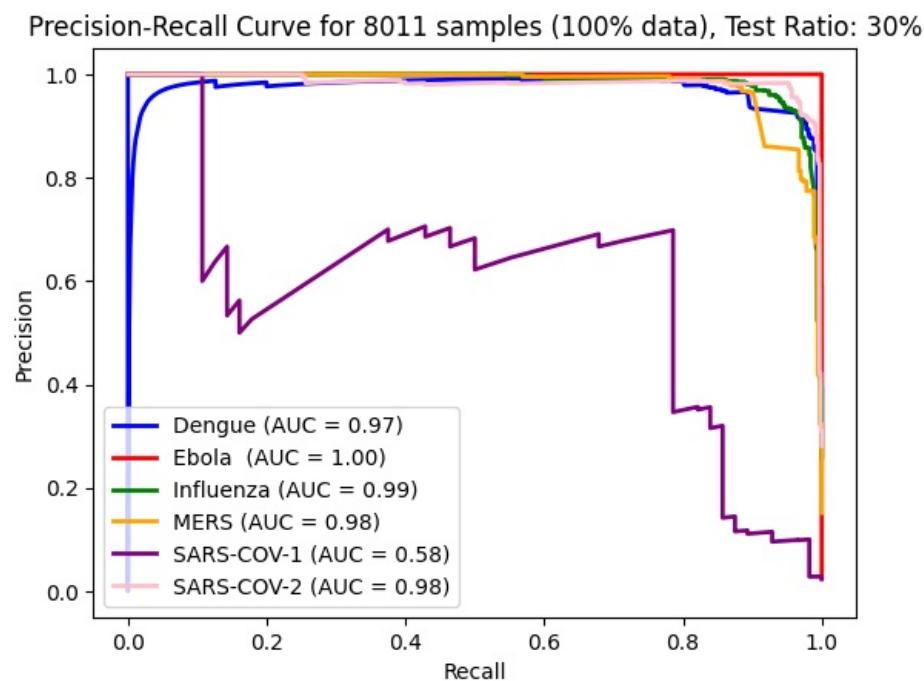


ROC Curve for 8011 samples (100% data), Test Ratio: 30%

ROC Curve for 8011 samples (100% data), Test Ratio: 30%

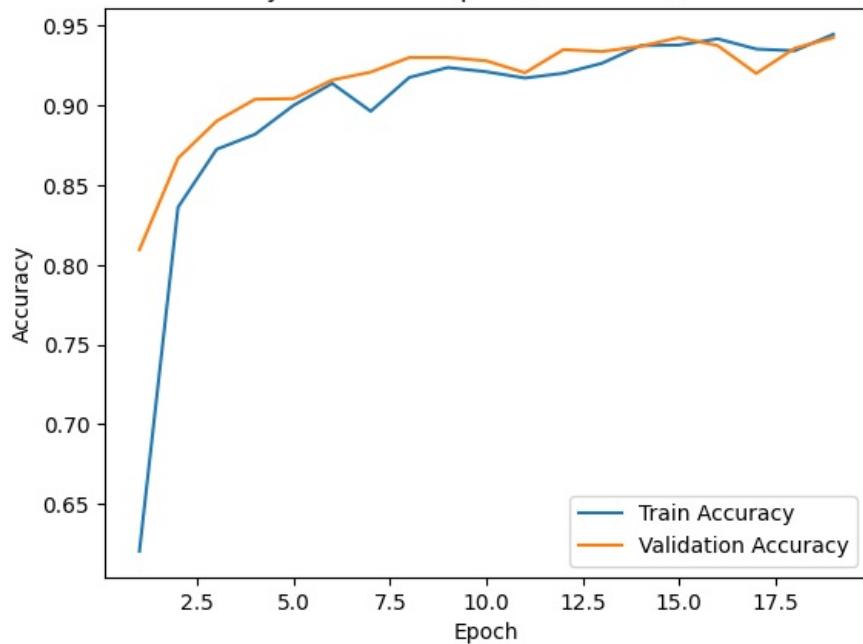


Precision-Recall Curve for 8011 samples (100% data), Test Ratio: 30%

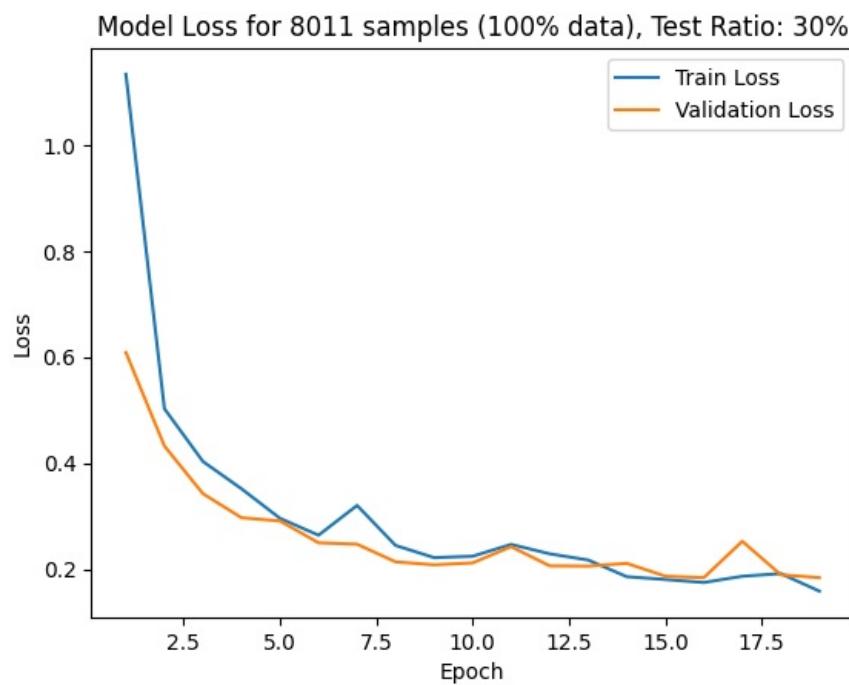


Model Accuracy for 8011 samples (100% data), Test Ratio: 30%

Model Accuracy for 8011 samples (100% data), Test Ratio: 30%



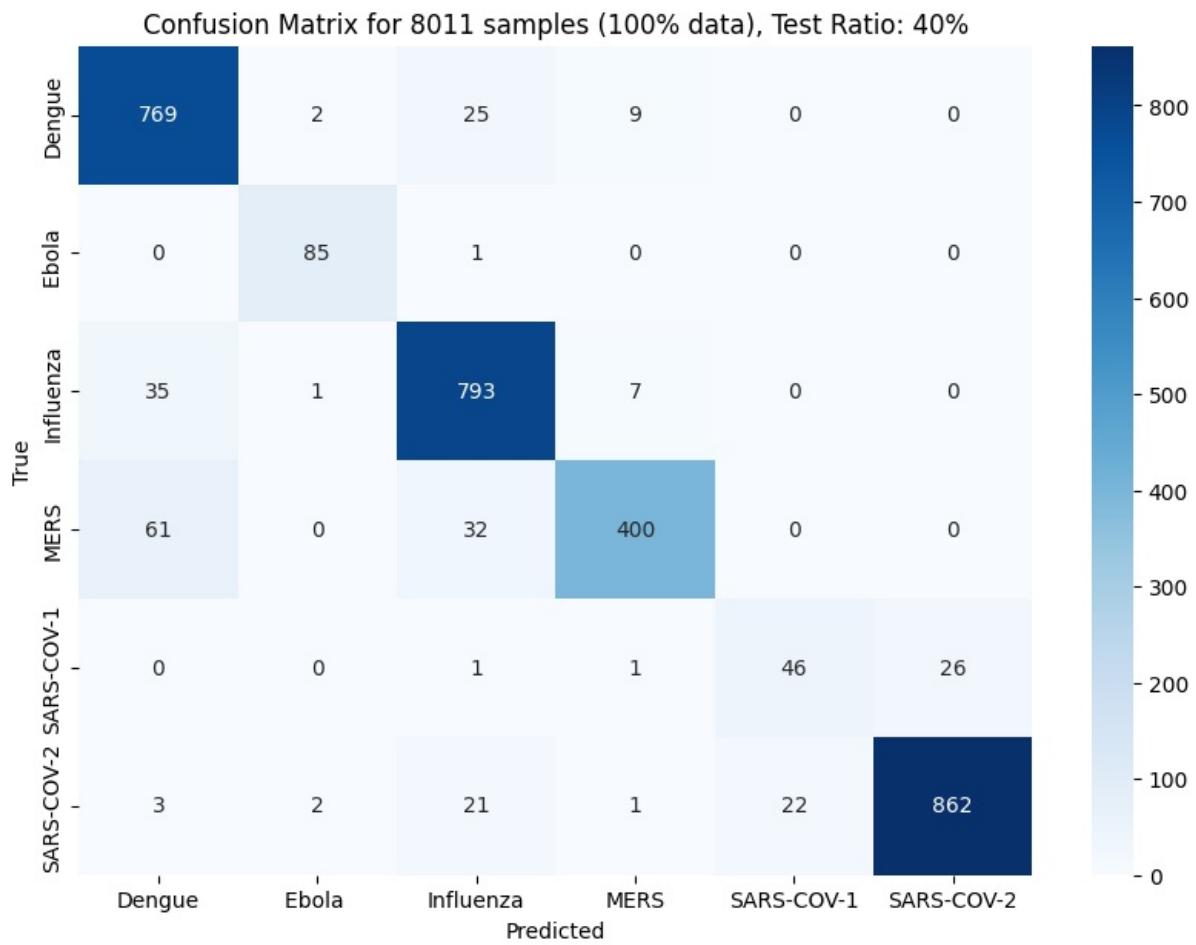
Model Loss for 8011 samples (100% data), Test Ratio: 30%



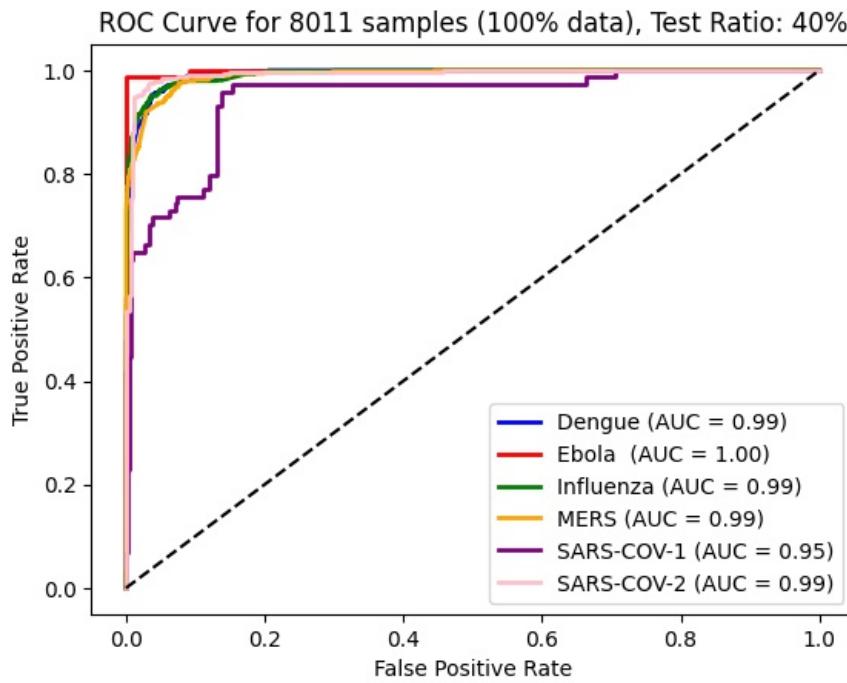
Data Size: 8011 samples, Test Ratio: 0.4

- Accuracy: 0.9220
- Precision: 0.8905
- Recall: 0.8786
- F1_score: 0.8829

Confusion Matrix for 8011 samples (100% data), Test Ratio: 40%

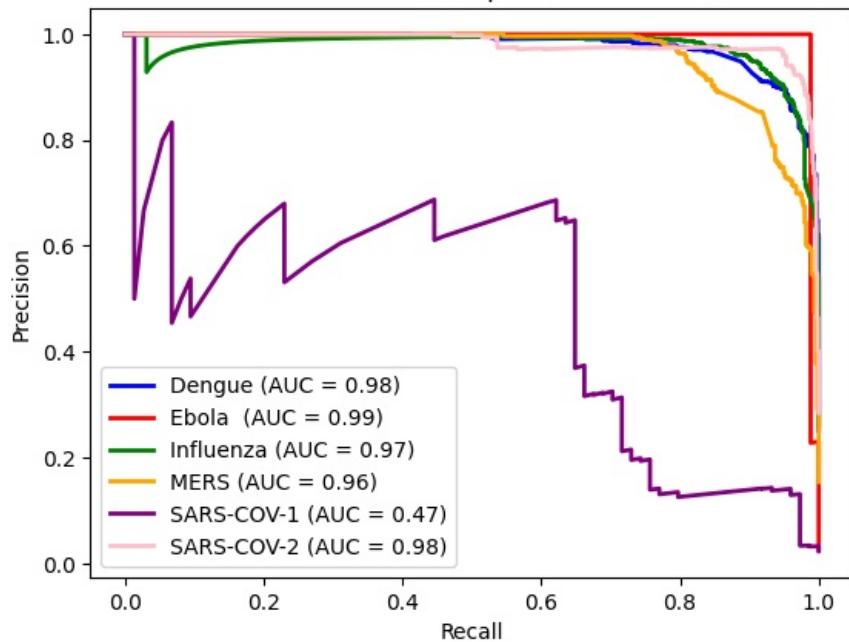


ROC Curve for 8011 samples (100% data), Test Ratio: 40%

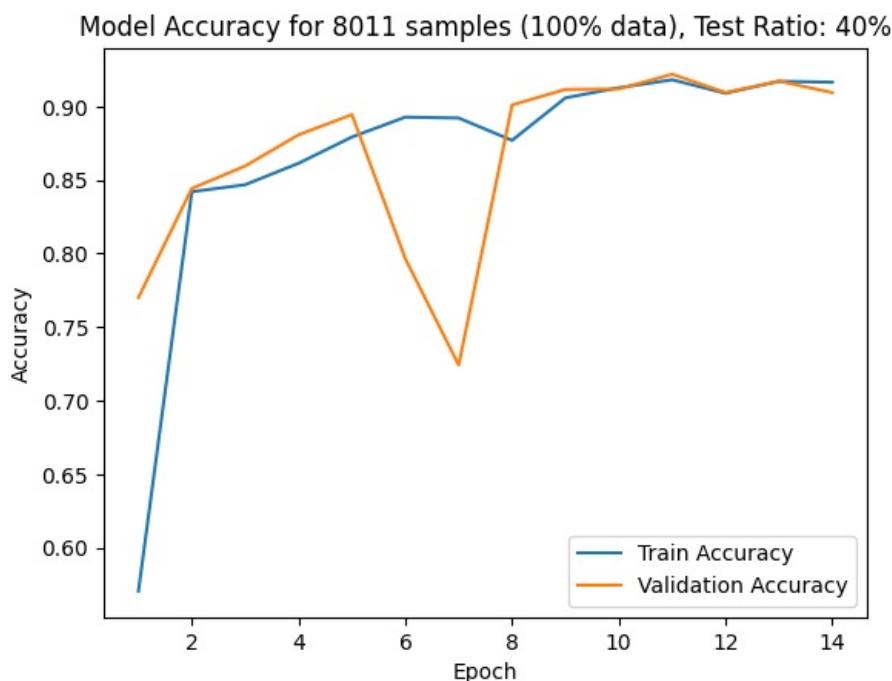


Precision-Recall Curve for 8011 samples (100% data), Test Ratio: 40%

Precision-Recall Curve for 8011 samples (100% data), Test Ratio: 40%

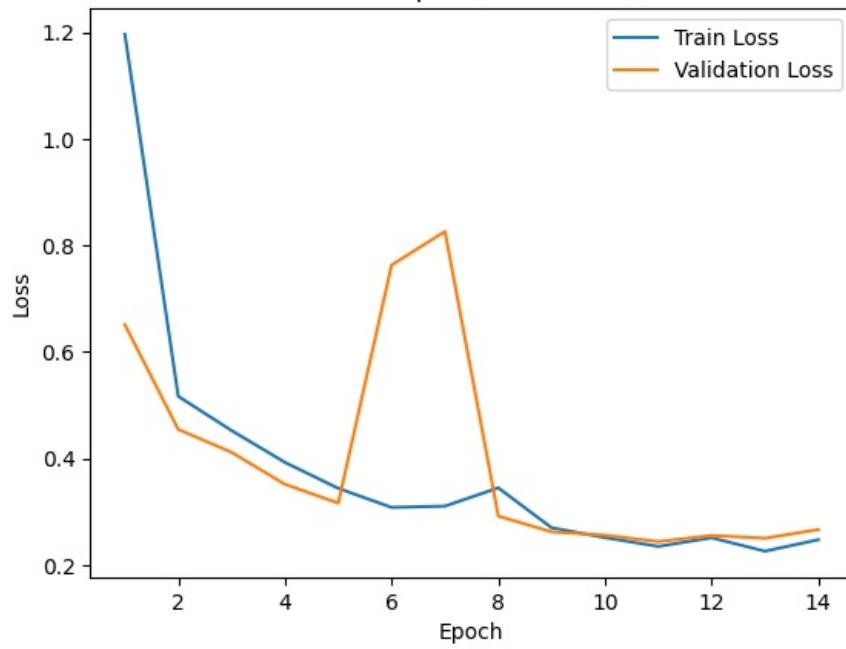


Model Accuracy for 8011 samples (100% data), Test Ratio: 40%



Model Loss for 8011 samples (100% data), Test Ratio: 40%

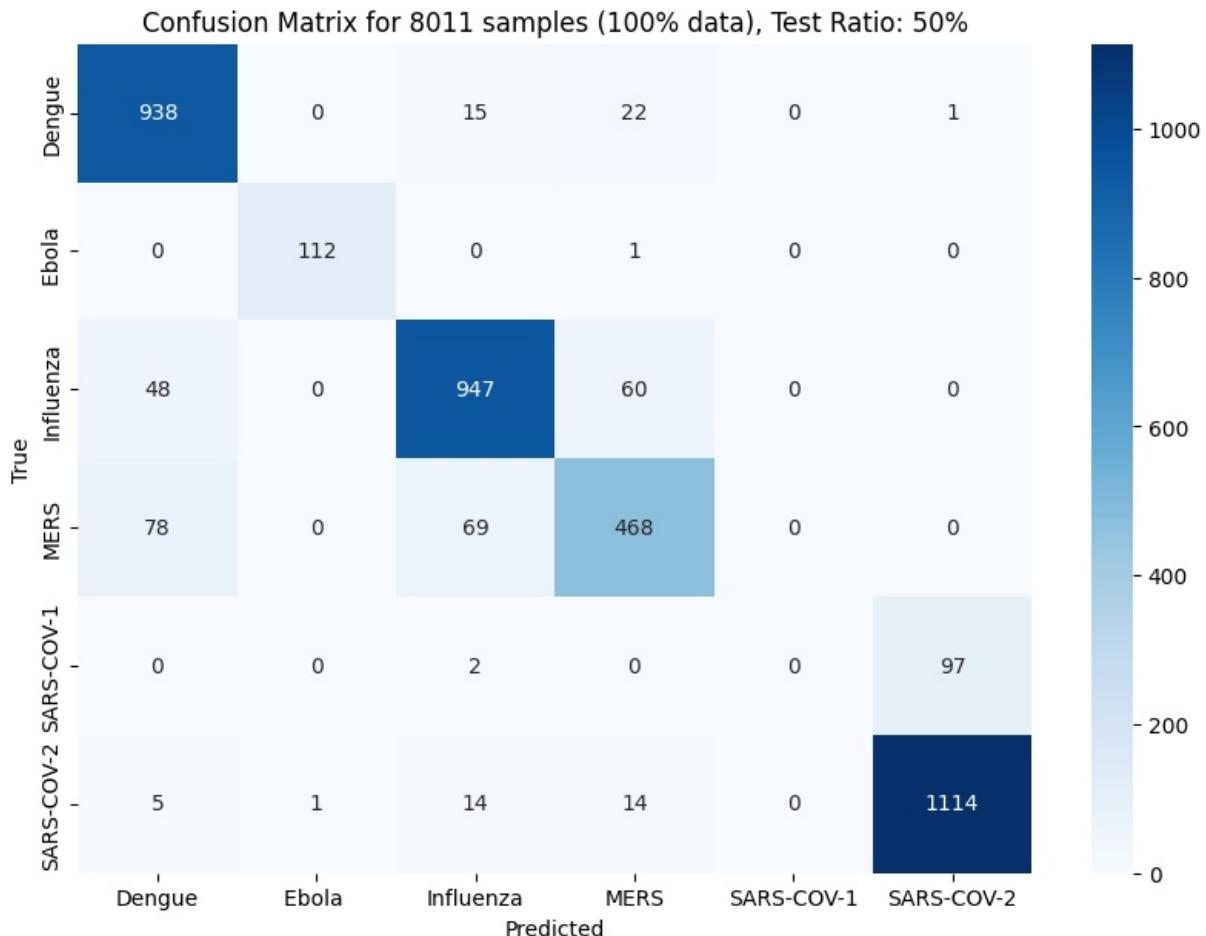
Model Loss for 8011 samples (100% data), Test Ratio: 40%



Data Size: 8011 samples, Test Ratio: 0.5

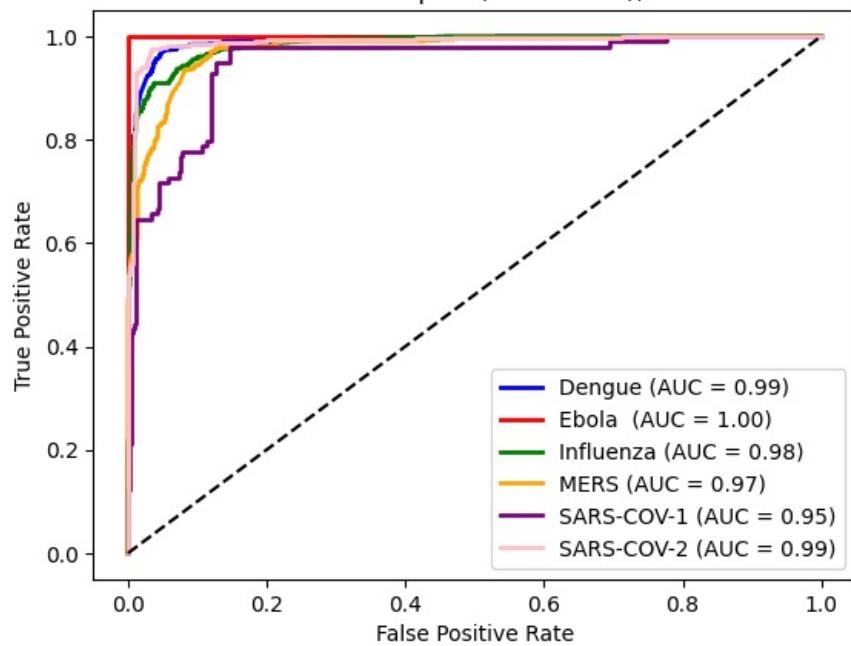
- Accuracy: 0.8934
- Precision: 0.9201
- Recall: 0.7635
- F1_score: 0.7578

Confusion Matrix for 8011 samples (100% data), Test Ratio: 50%

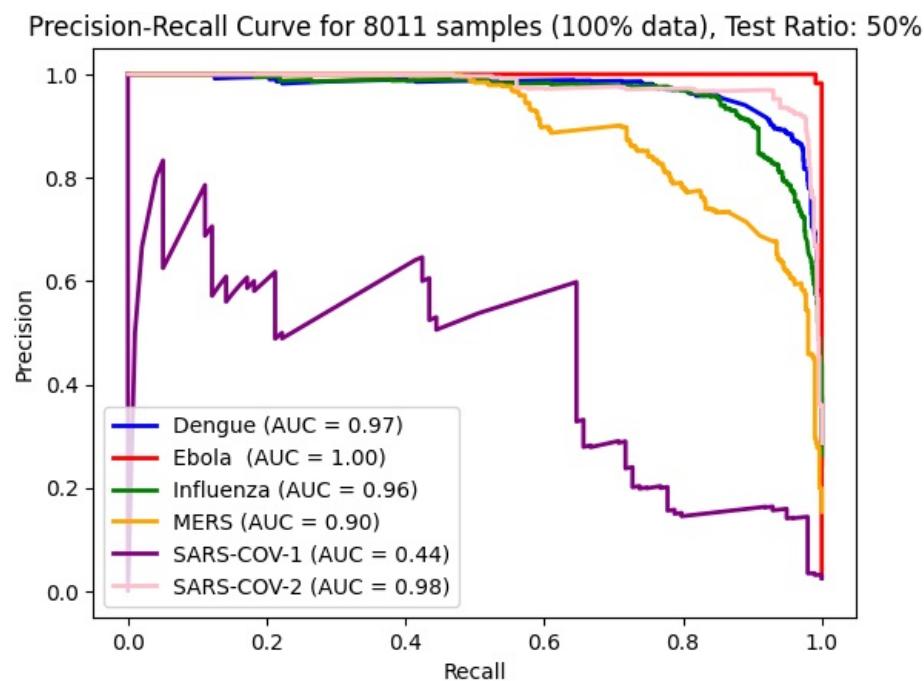


ROC Curve for 8011 samples (100% data), Test Ratio: 50%

ROC Curve for 8011 samples (100% data), Test Ratio: 50%

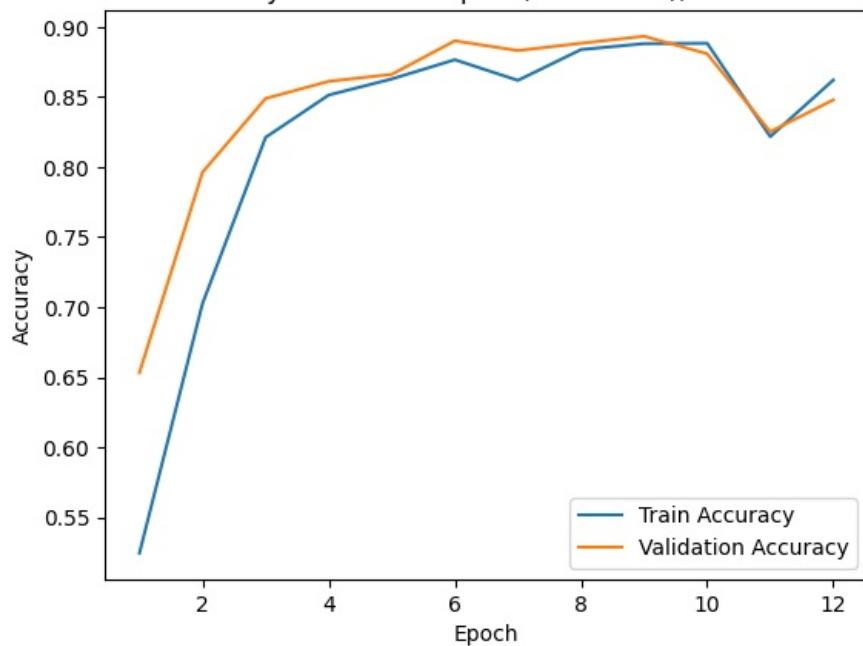


Precision-Recall Curve for 8011 samples (100% data), Test Ratio: 50%



Model Accuracy for 8011 samples (100% data), Test Ratio: 50%

Model Accuracy for 8011 samples (100% data), Test Ratio: 50%



Model Loss for 8011 samples (100% data), Test Ratio: 50%

