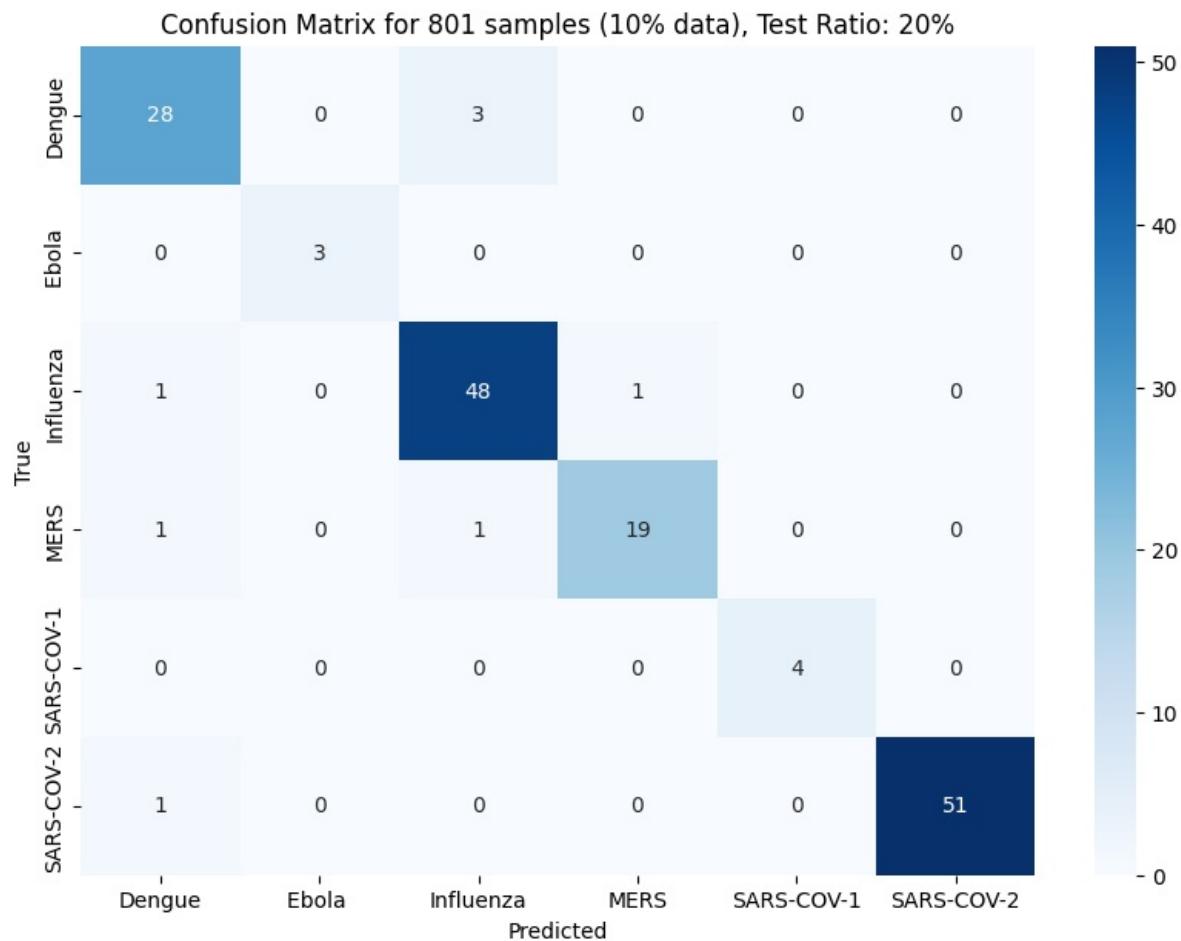


# Consolidated CNN Model Evaluation Report

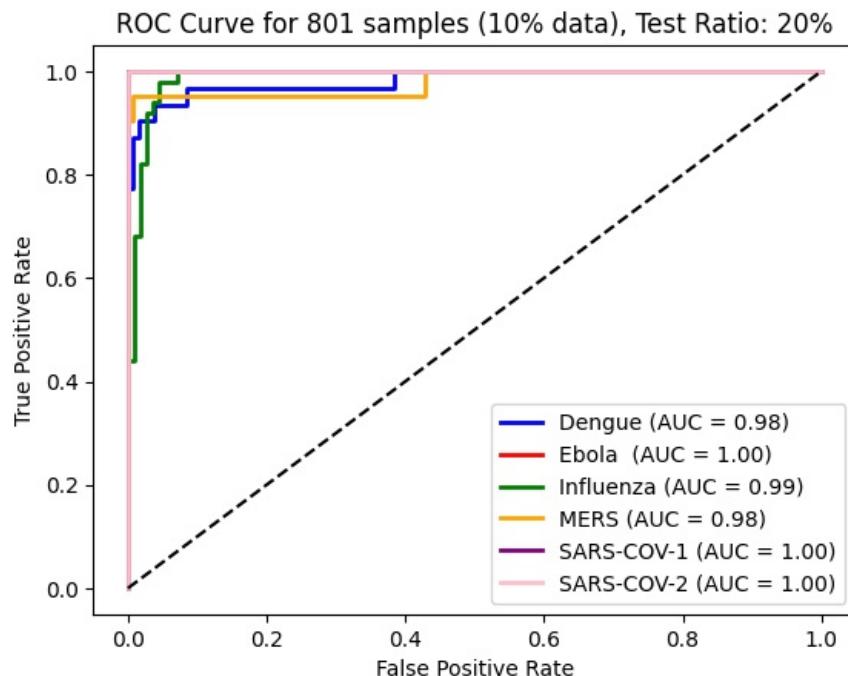
Data Size: 801 samples, Test Ratio: 0.2

- Accuracy: 0.9503
- Precision: 0.9627
- Recall: 0.9581
- F1\_score: 0.9603

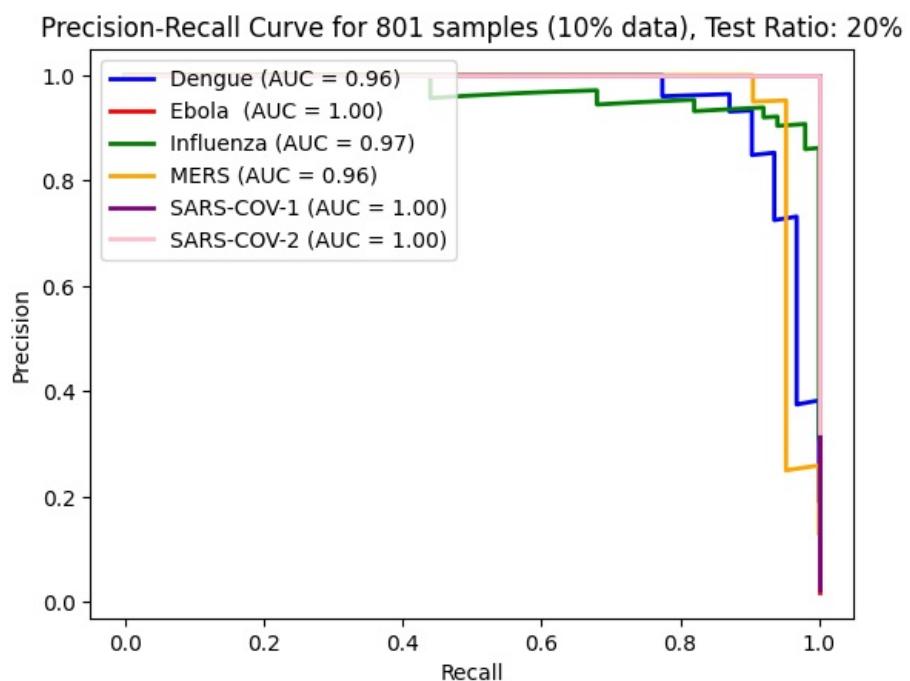
Confusion Matrix for 801 samples (10% data), Test Ratio: 20%



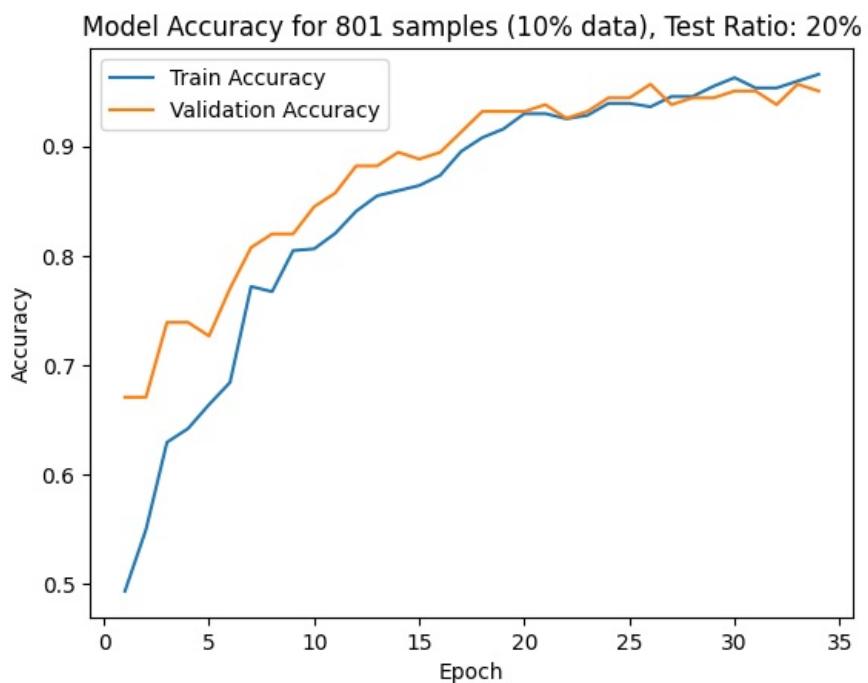
ROC Curve for 801 samples (10% data), Test Ratio: 20%



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

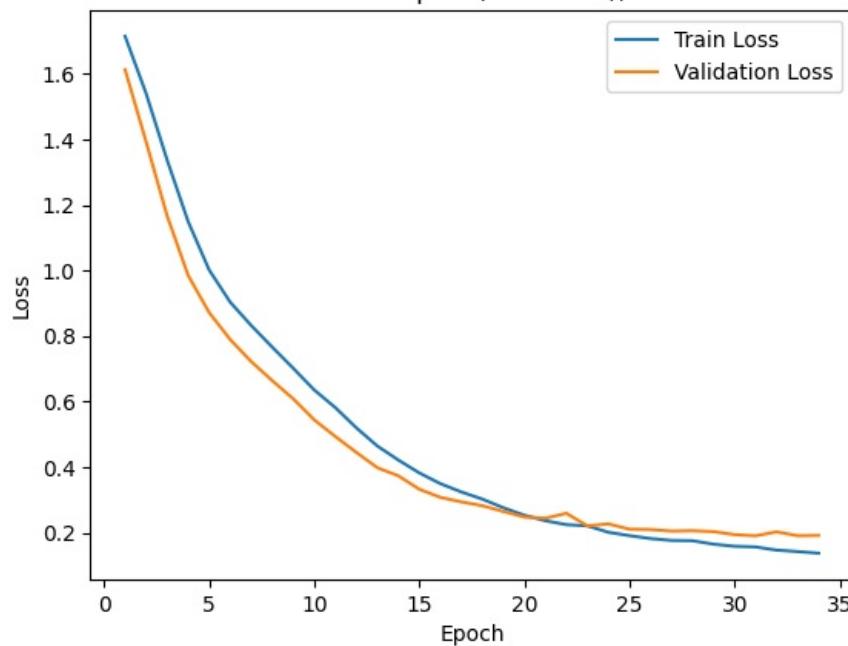


## Model Accuracy for 801 samples (10% data), Test Ratio: 20%



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

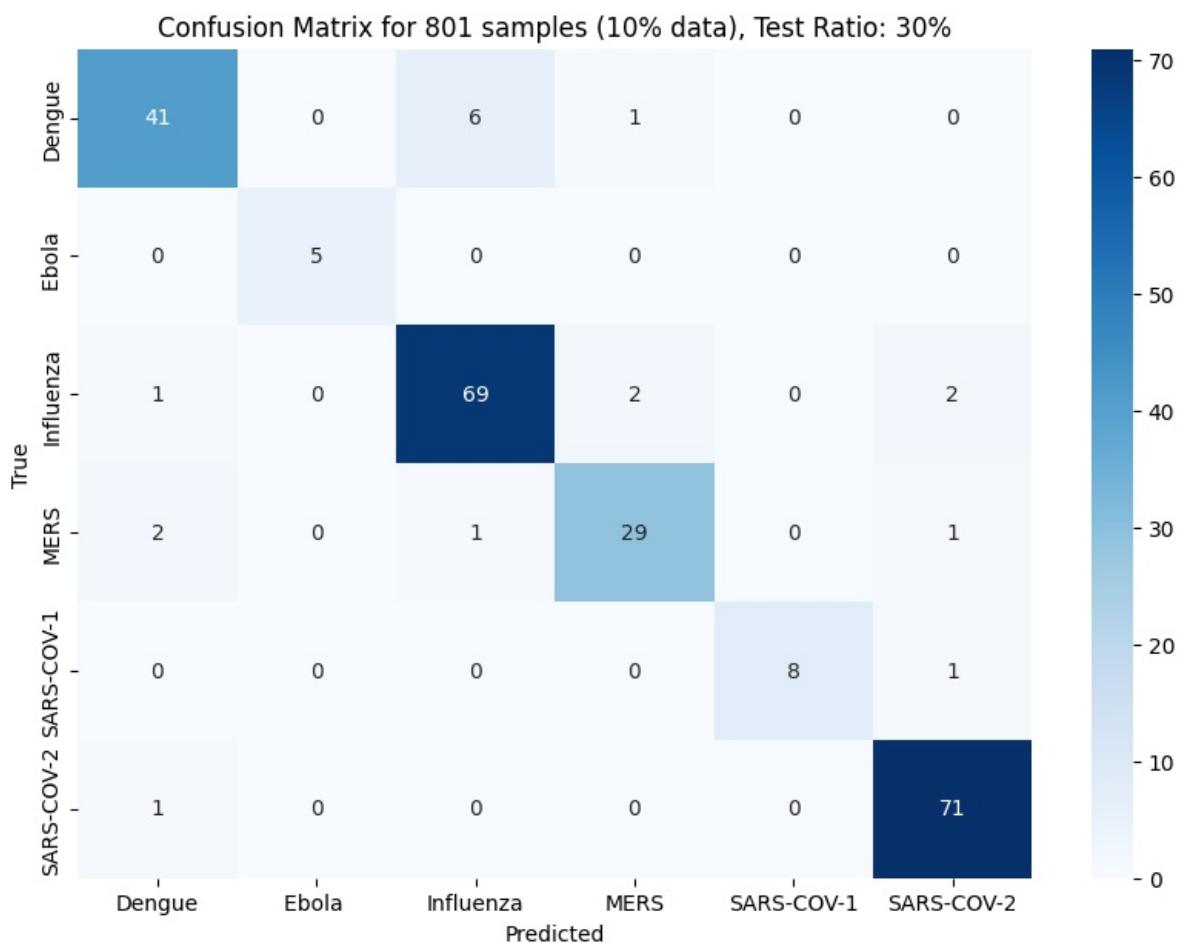
### Model Loss for 801 samples (10% data), Test Ratio: 20%



**Data Size: 801 samples, Test Ratio: 0.3**

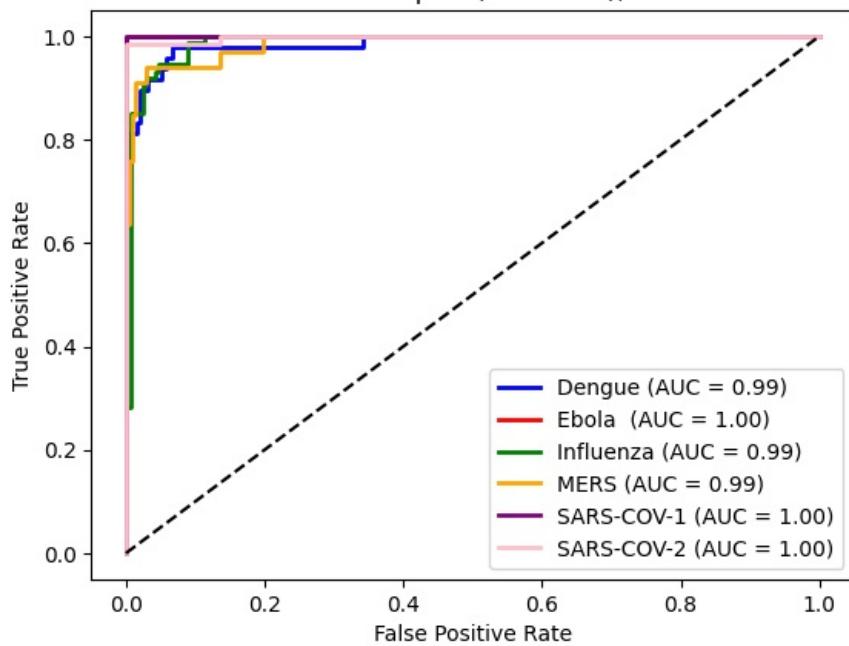
- Accuracy: 0.9253
- Precision: 0.9453
- Recall: 0.9234
- F1\_score: 0.9335

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

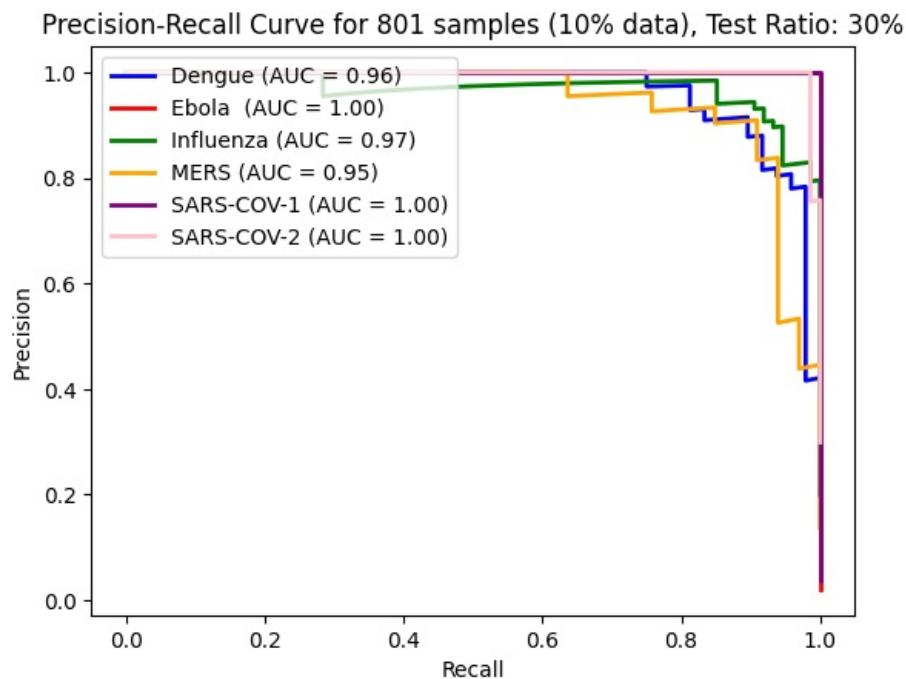


**ROC Curve for 801 samples (10% data), Test Ratio: 30%**

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

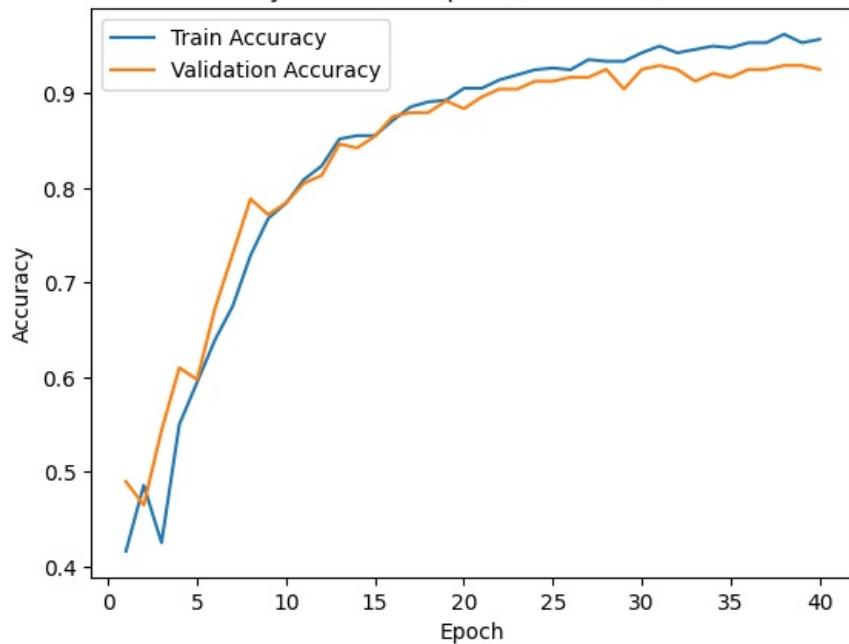


Precision-Recall Curve for 801 samples (10% data), Test Ratio: 30%

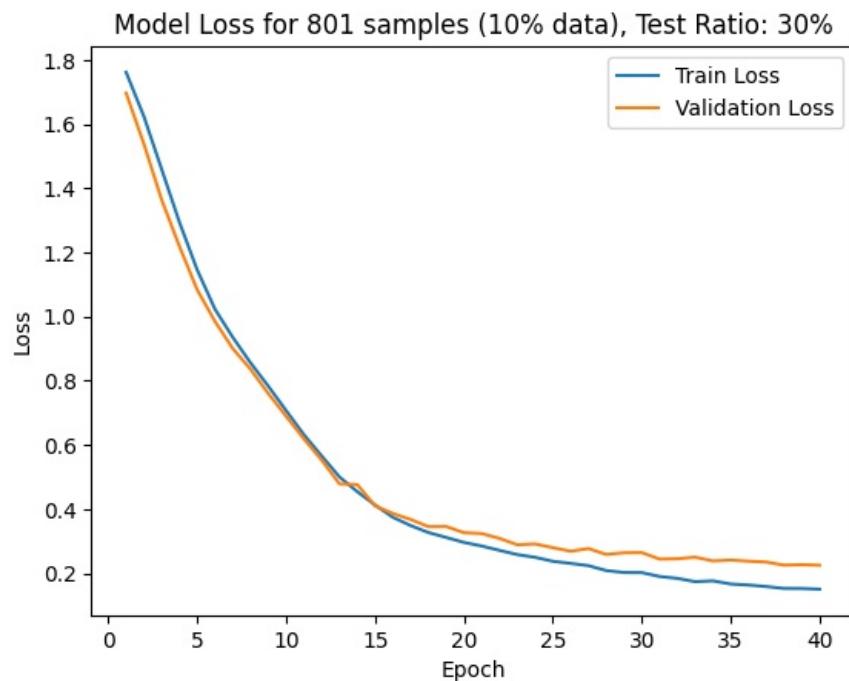


Model Accuracy for 801 samples (10% data), Test Ratio: 30%

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



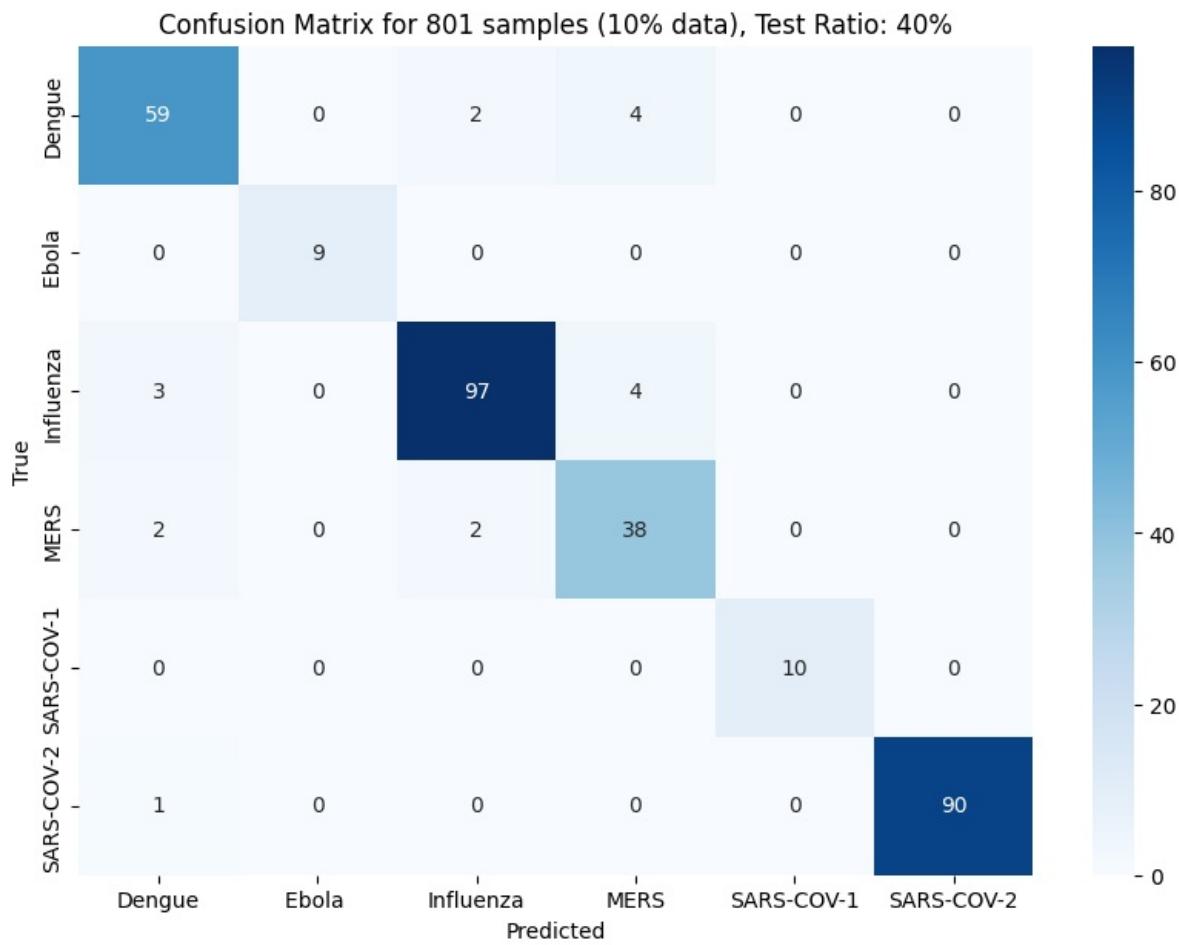
### Model Loss for 801 samples (10% data), Test Ratio: 30%



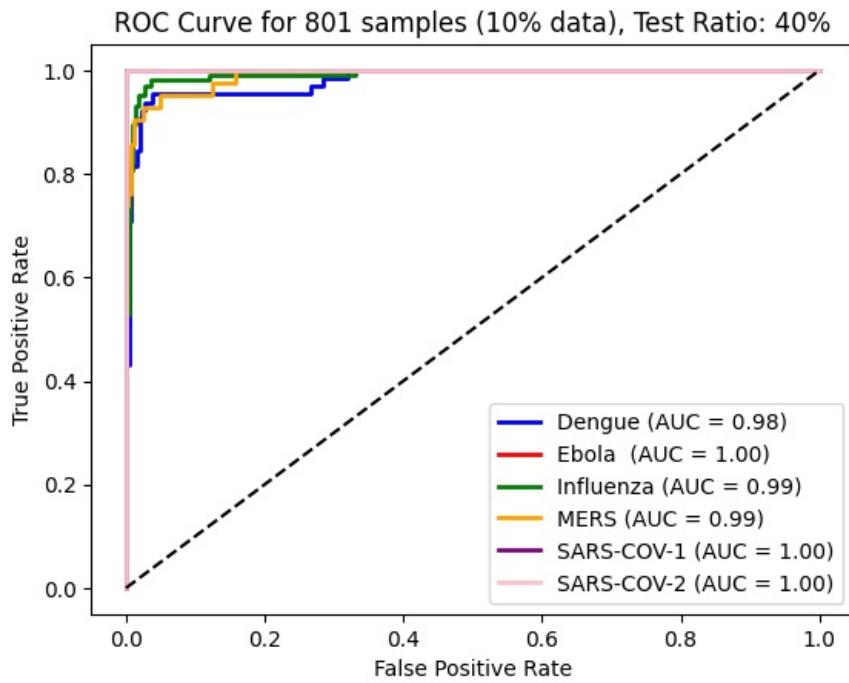
### Data Size: 801 samples, Test Ratio: 0.4

- Accuracy: 0.9439
- Precision: 0.9490
- Recall: 0.9557
- F1\_score: 0.9520

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

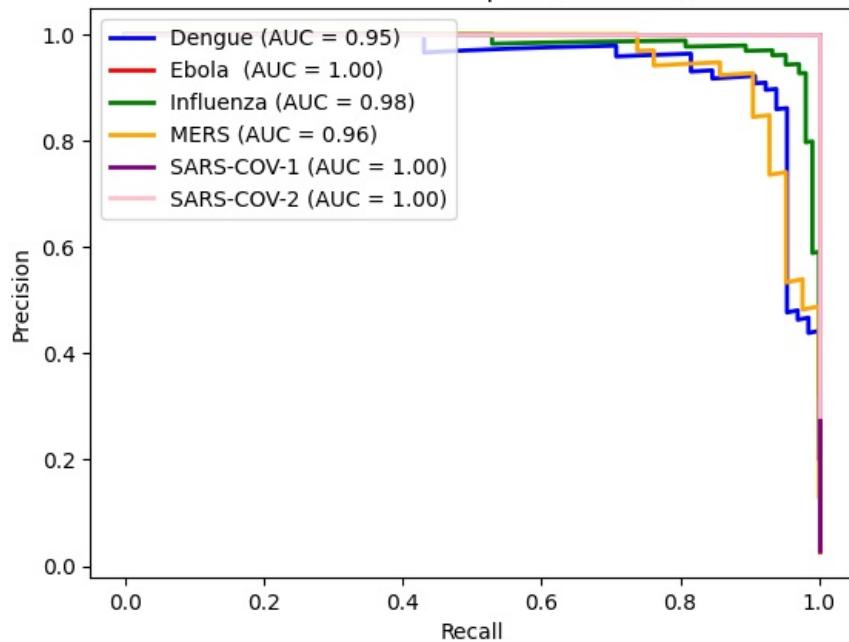


ROC Curve for 801 samples (10% data), Test Ratio: 40%

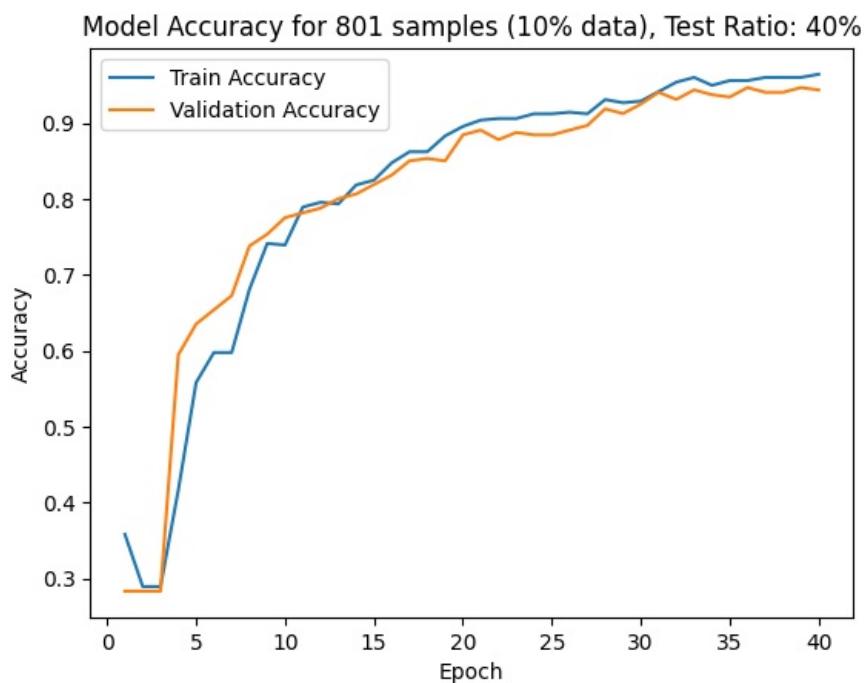


Precision-Recall Curve for 801 samples (10% data), Test Ratio: 40%

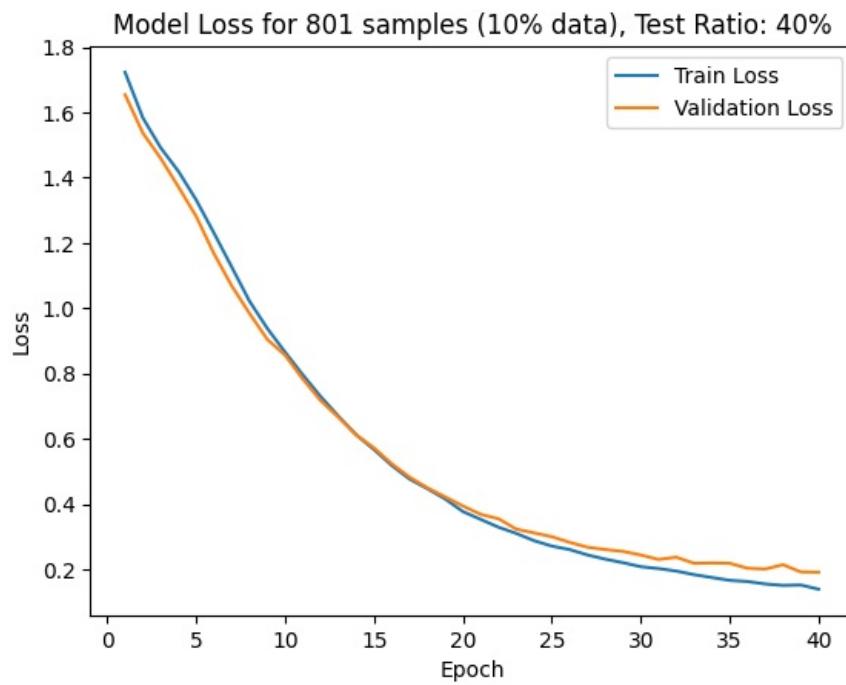
### Precision-Recall Curve for 801 samples (10% data), Test Ratio: 40%



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



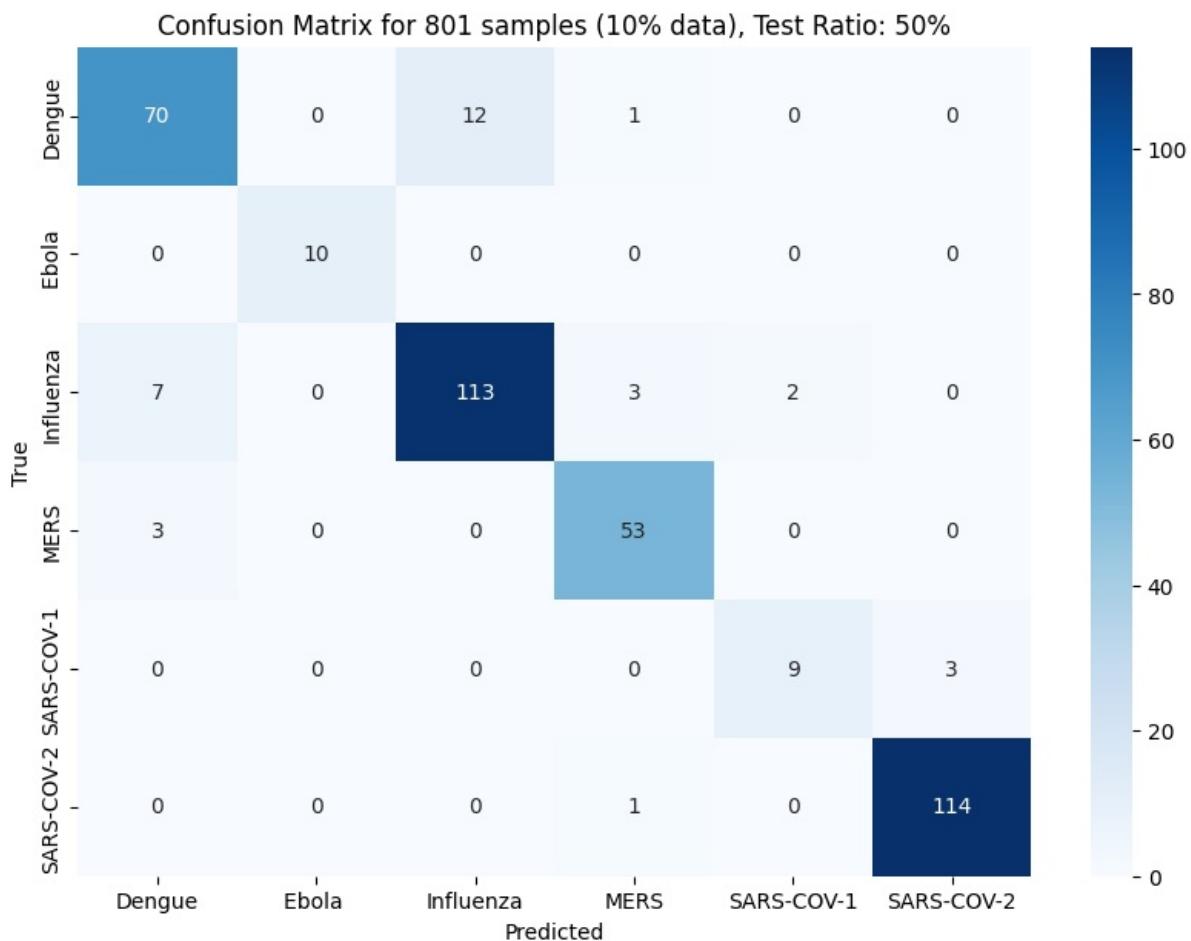
### Model Loss for 801 samples (10% data), Test Ratio: 40%



**Data Size: 801 samples, Test Ratio: 0.5**

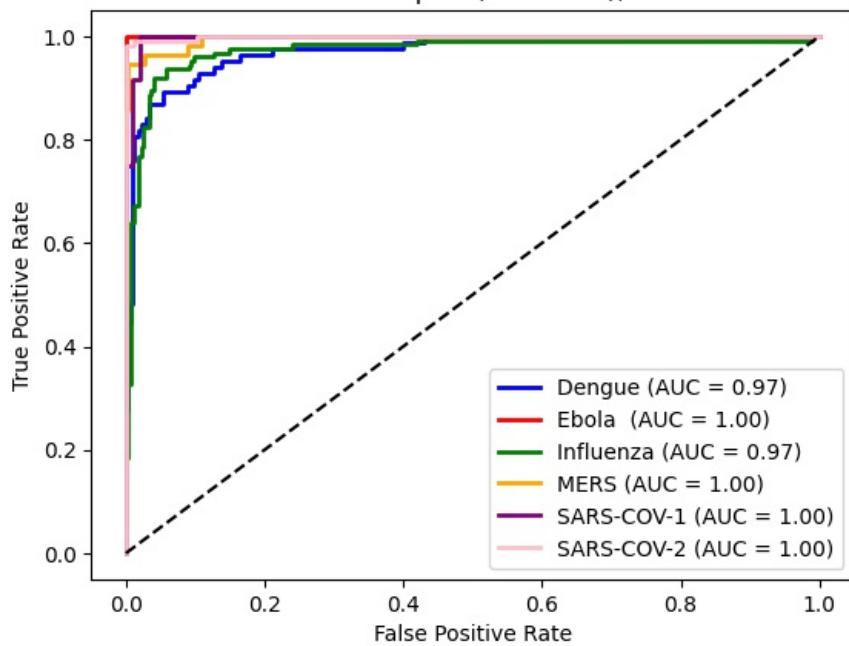
- Accuracy: 0.9202
- Precision: 0.9142
- Recall: 0.9059
- F1\_score: 0.9097

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

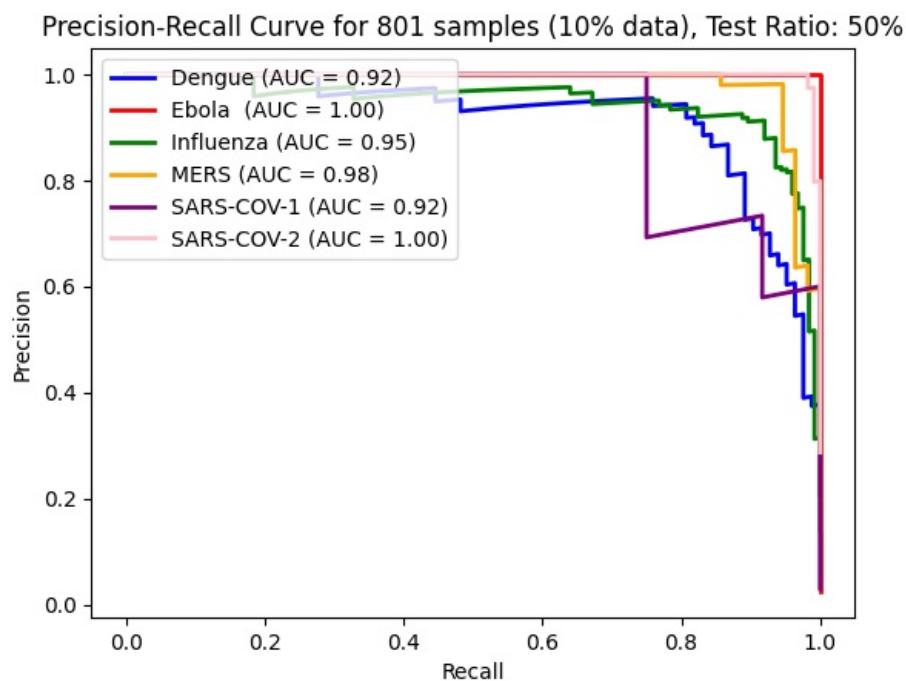


**ROC Curve for 801 samples (10% data), Test Ratio: 50%**

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

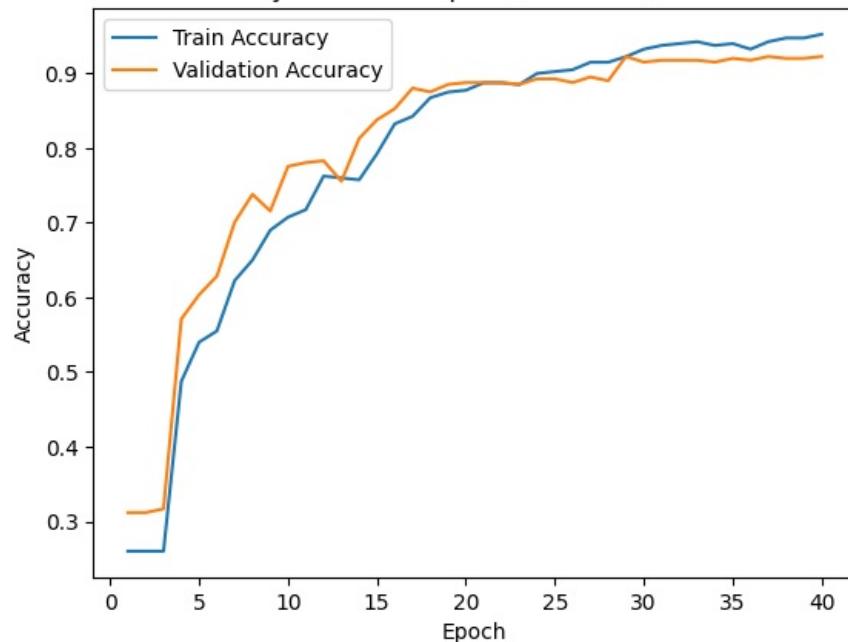


Precision-Recall Curve for 801 samples (10% data), Test Ratio: 50%

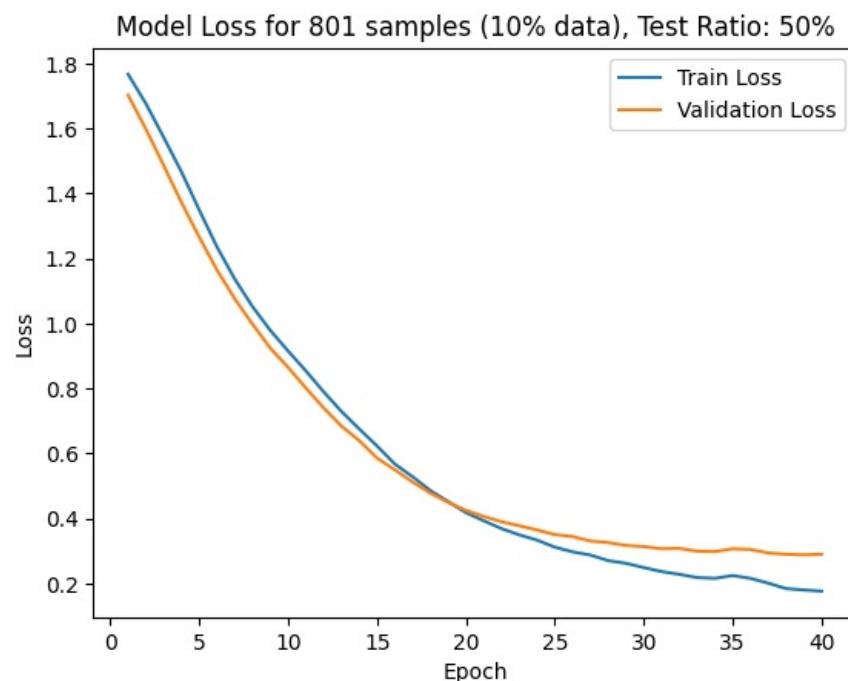


Model Accuracy for 801 samples (10% data), Test Ratio: 50%

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



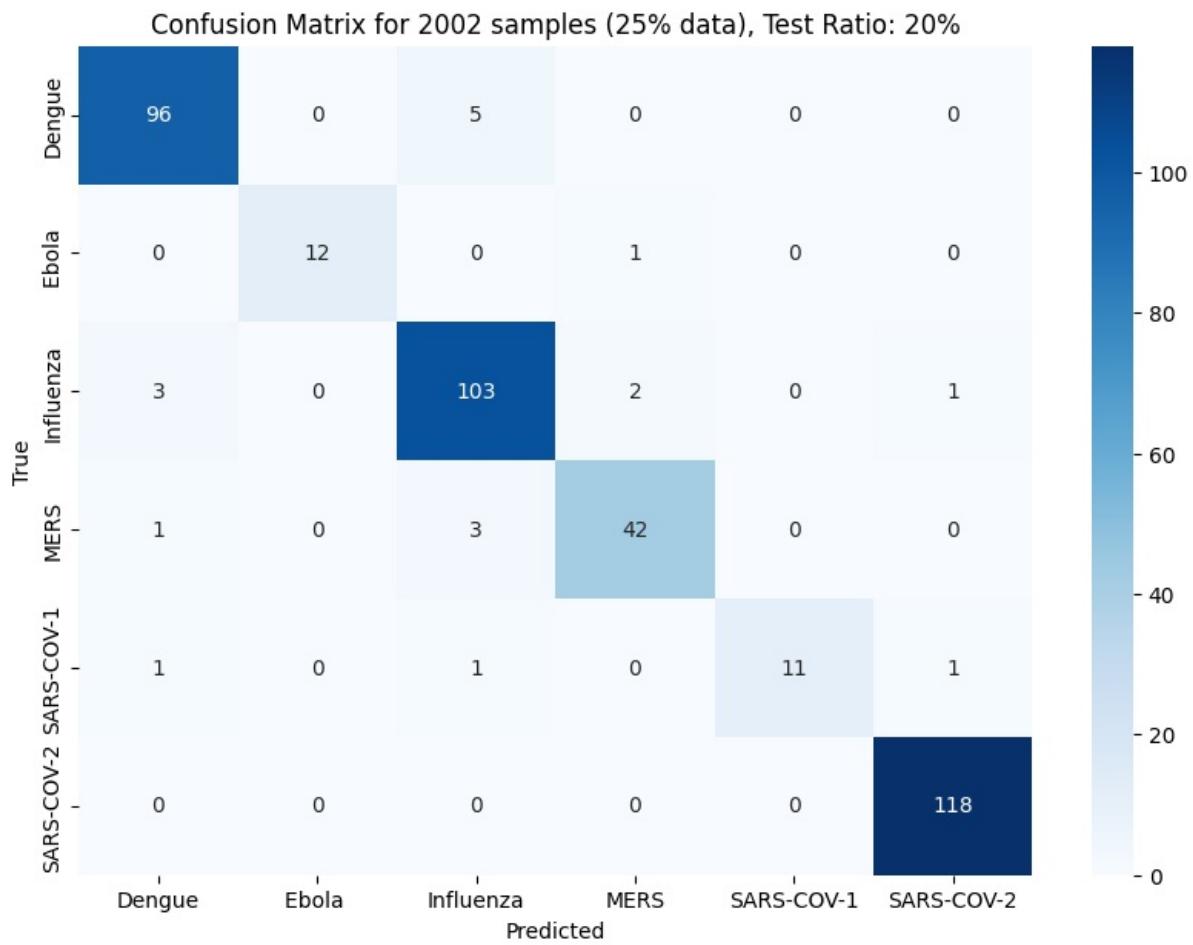
### Model Loss for 801 samples (10% data), Test Ratio: 50%



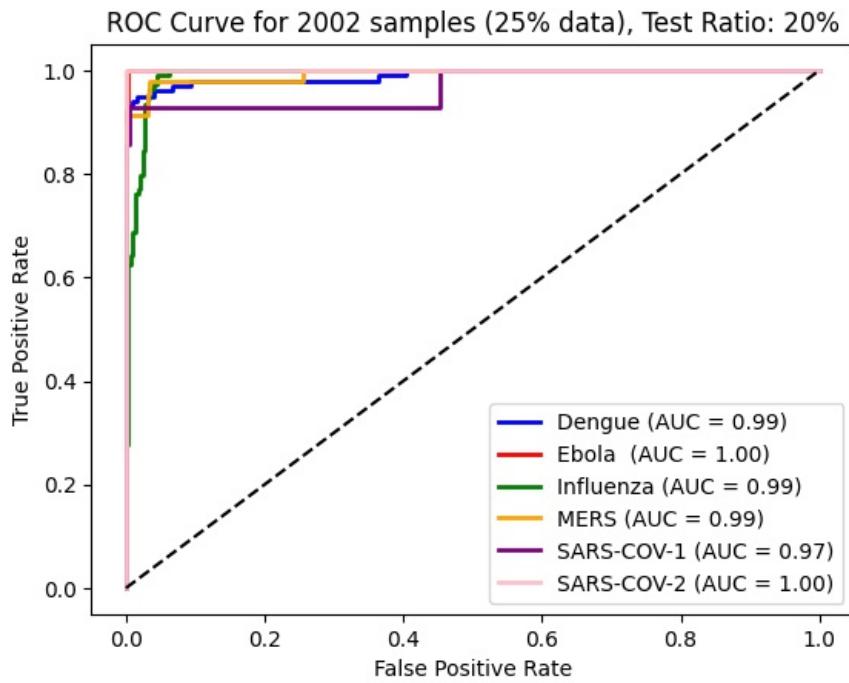
### Data Size: 2002 samples, Test Ratio: 0.2

- Accuracy: 0.9526
- Precision: 0.9645
- Recall: 0.9195
- F1\_score: 0.9395

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

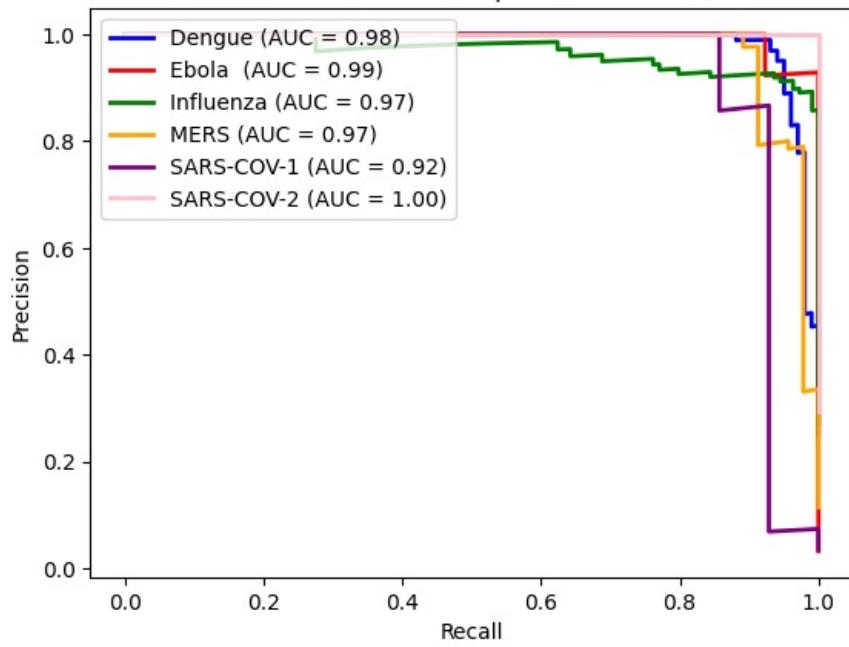


ROC Curve for 2002 samples (25% data), Test Ratio: 20%

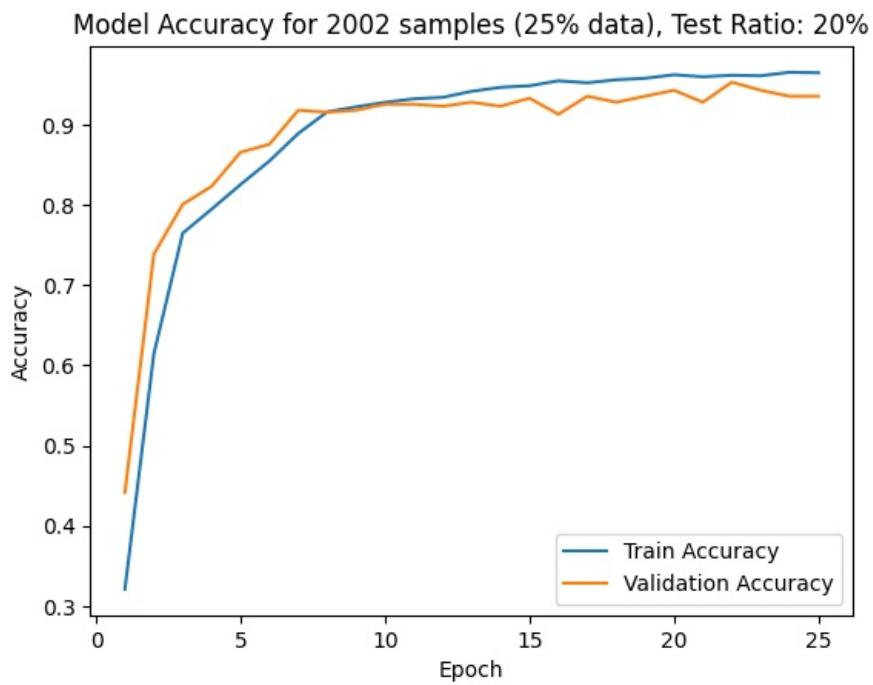


Precision-Recall Curve for 2002 samples (25% data), Test Ratio: 20%

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

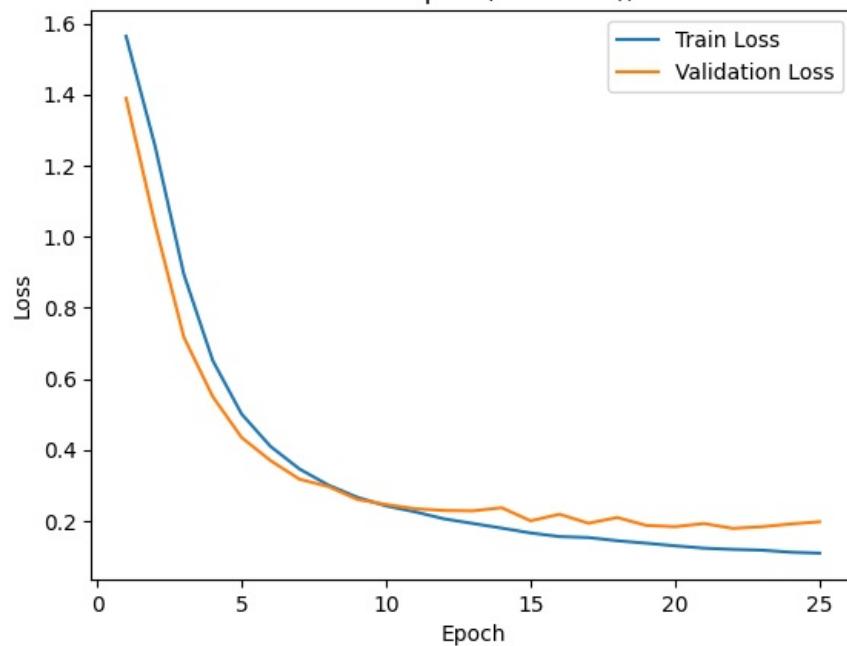


### Model Accuracy for 2002 samples (25% data), Test Ratio: 20%



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

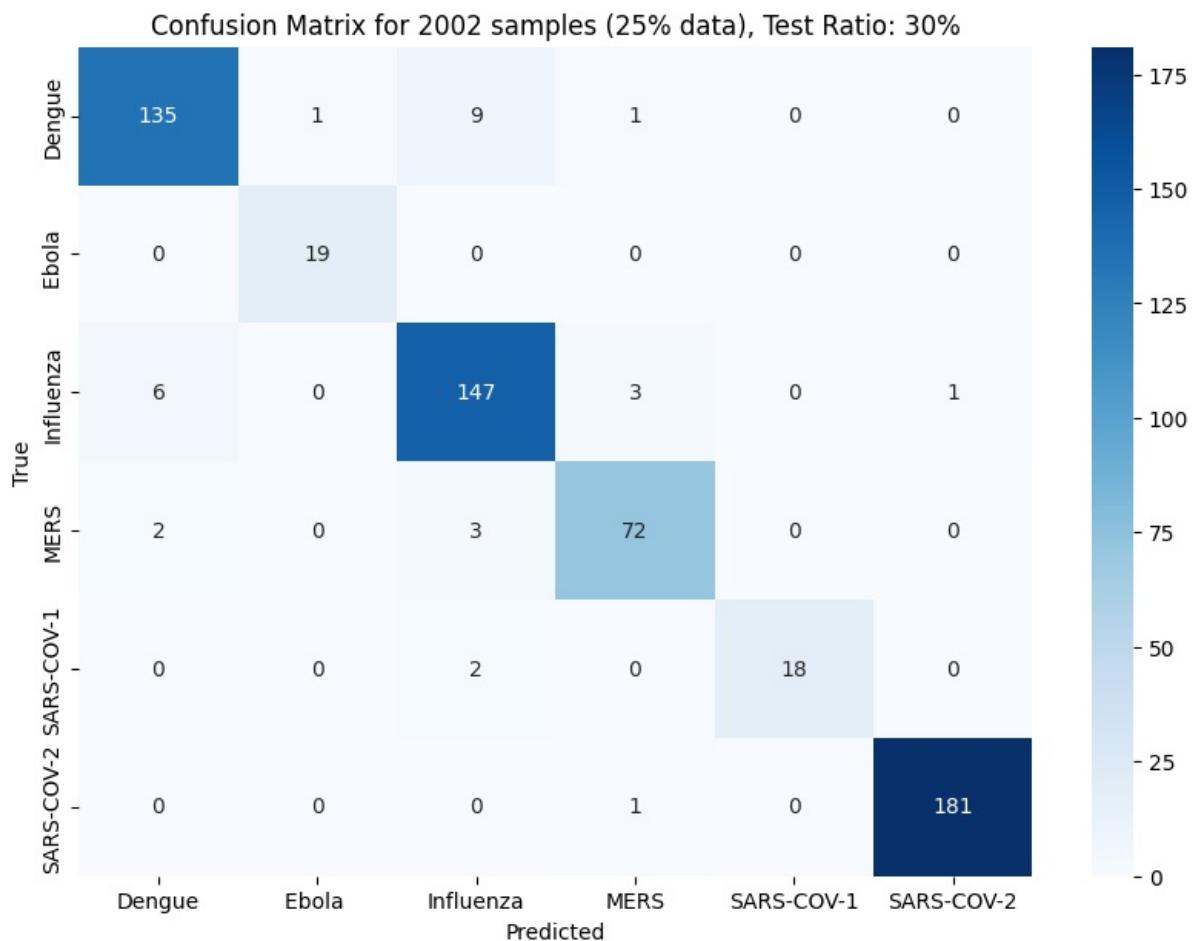
### Model Loss for 2002 samples (25% data), Test Ratio: 20%



### Data Size: 2002 samples, Test Ratio: 0.3

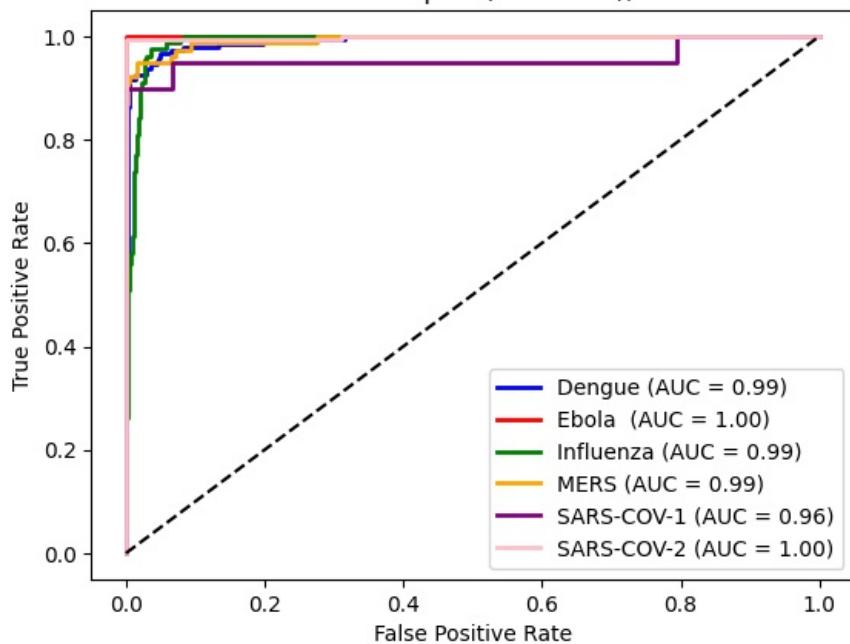
- Accuracy: 0.9517
- Precision: 0.9561
- Recall: 0.9484
- F1\_score: 0.9517

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

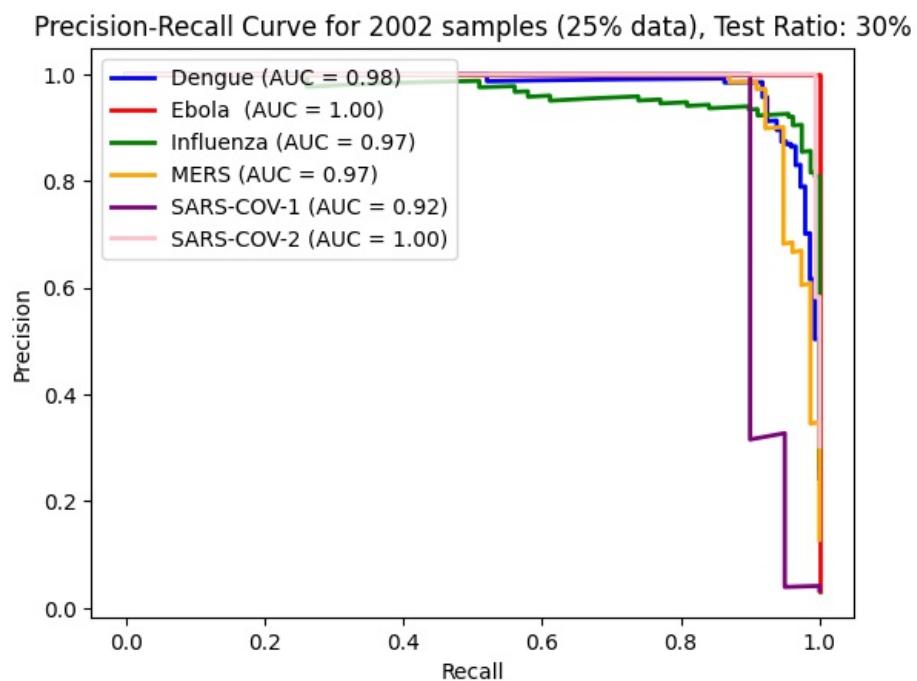


### ROC Curve for 2002 samples (25% data), Test Ratio: 30%

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

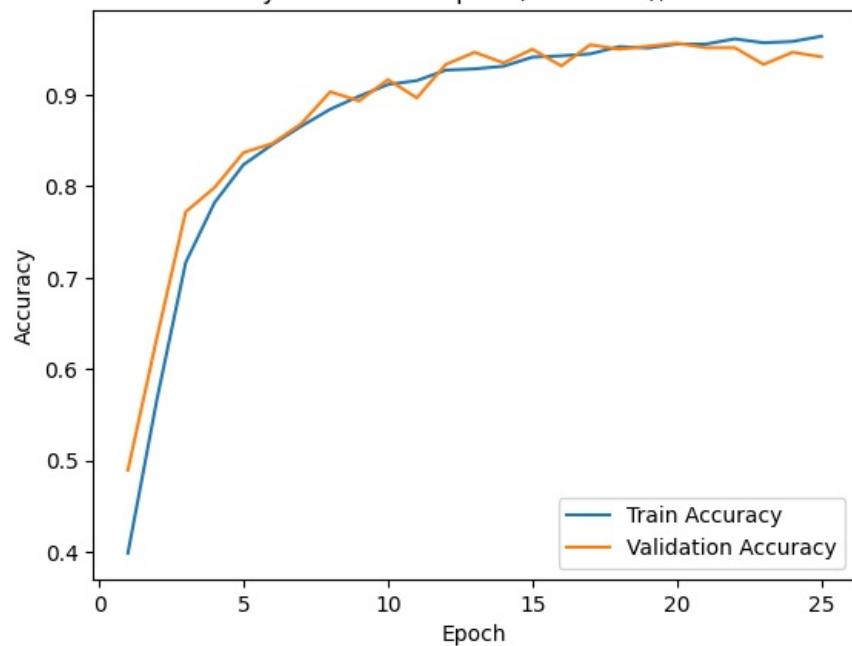


Precision-Recall Curve for 2002 samples (25% data), Test Ratio: 30%

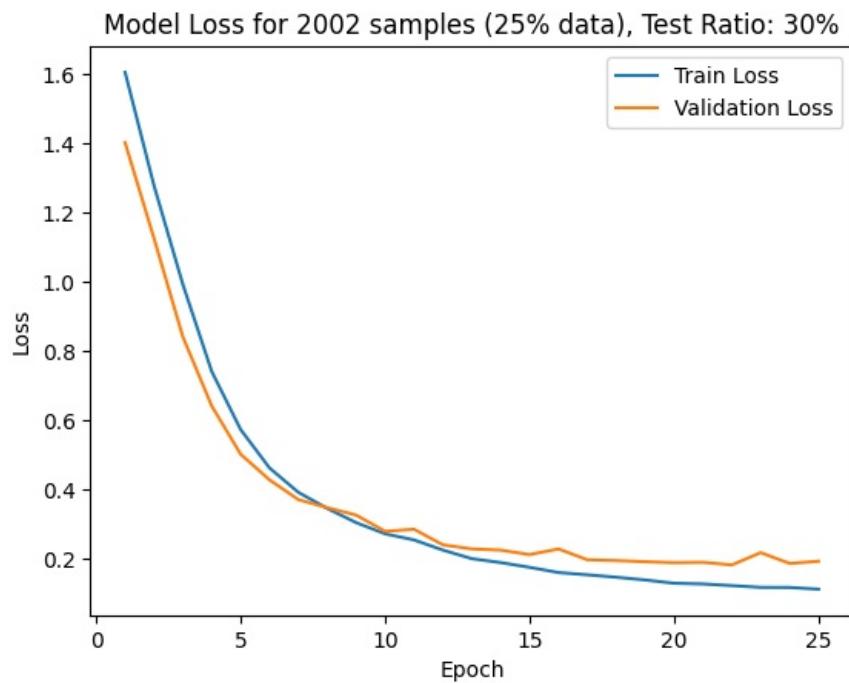


Model Accuracy for 2002 samples (25% data), Test Ratio: 30%

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



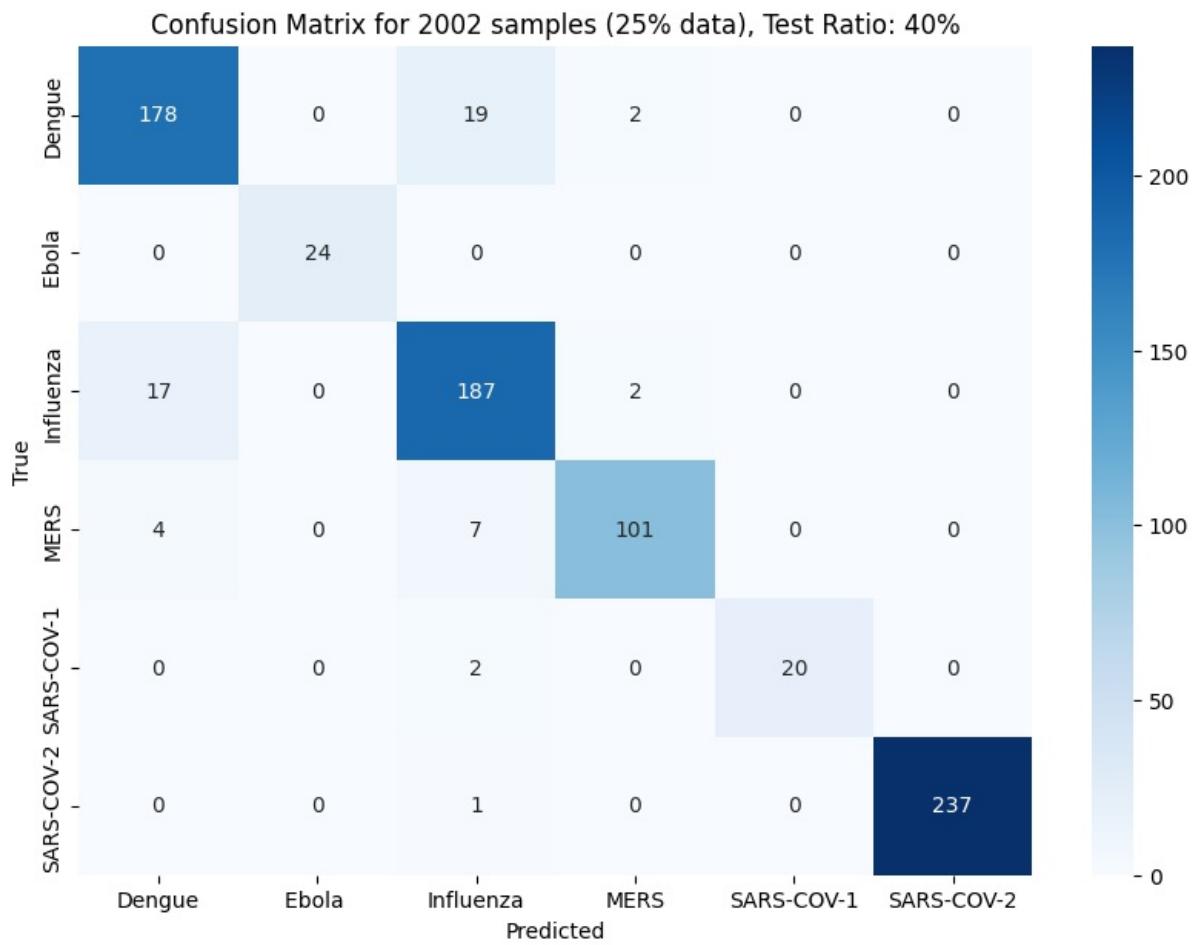
### Model Loss for 2002 samples (25% data), Test Ratio: 30%



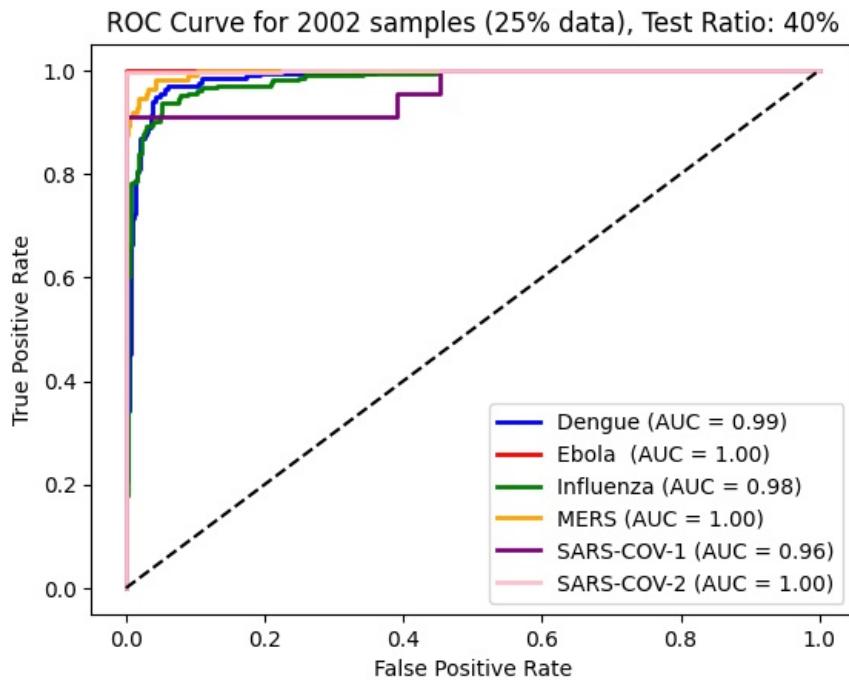
### Data Size: 2002 samples, Test Ratio: 0.4

- Accuracy: 0.9326
- Precision: 0.9537
- Recall: 0.9348
- F1\_score: 0.9436

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

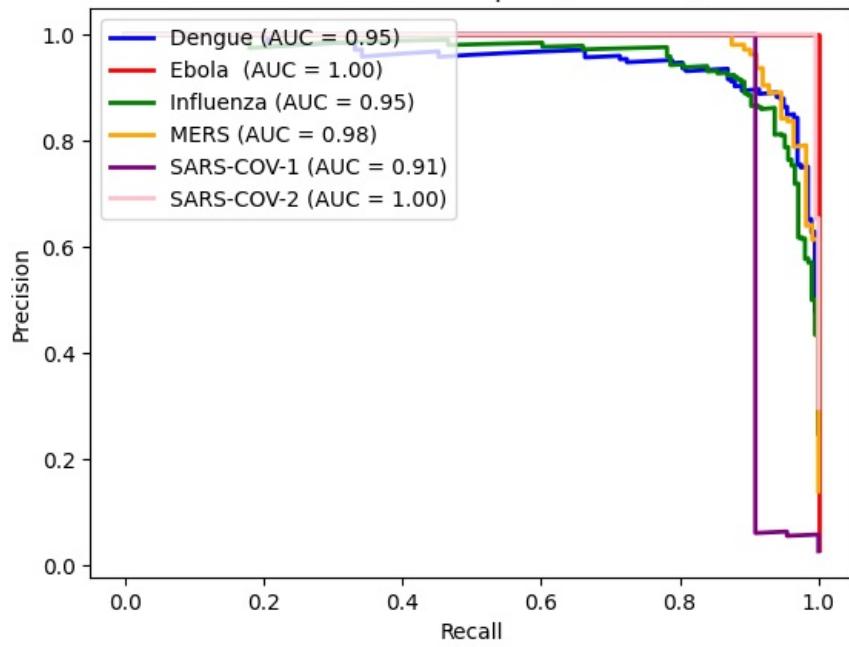


ROC Curve for 2002 samples (25% data), Test Ratio: 40%

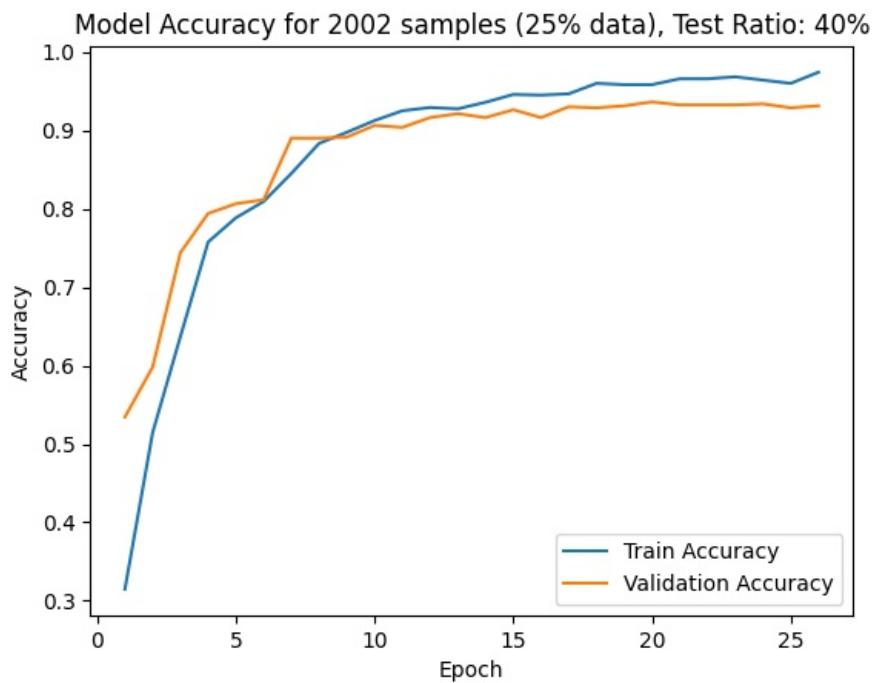


Precision-Recall Curve for 2002 samples (25% data), Test Ratio: 40%

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

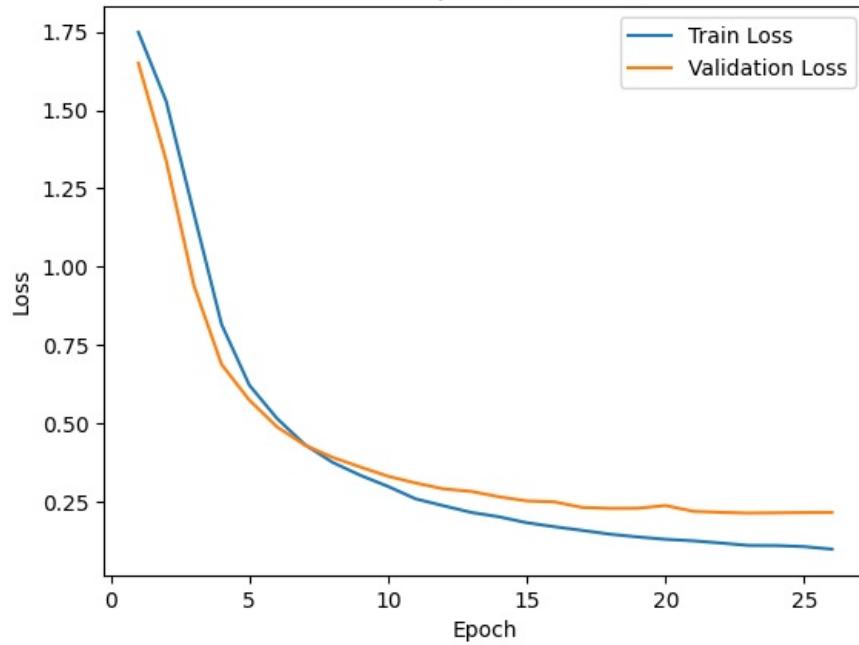


### Model Accuracy for 2002 samples (25% data), Test Ratio: 40%



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

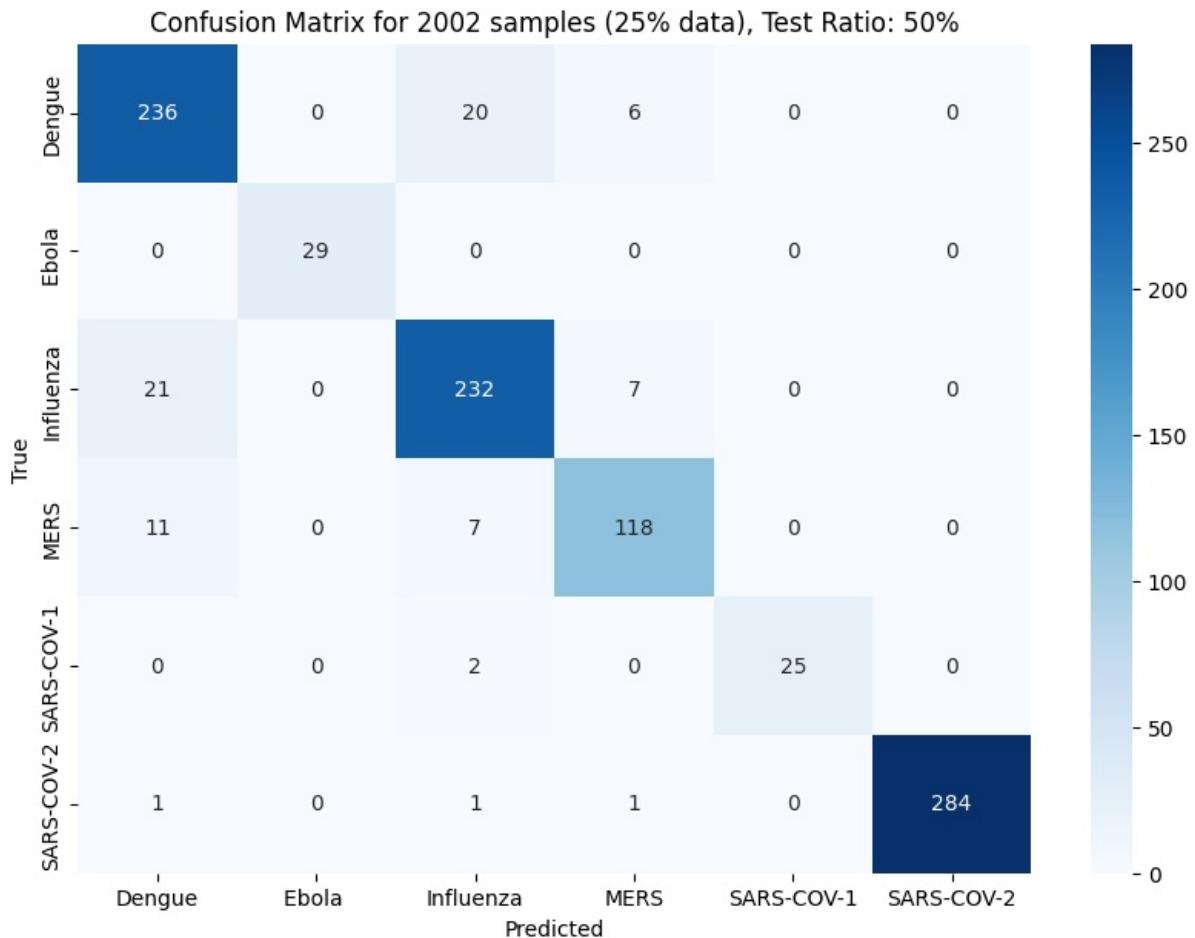
### Model Loss for 2002 samples (25% data), Test Ratio: 40%



### Data Size: 2002 samples, Test Ratio: 0.5

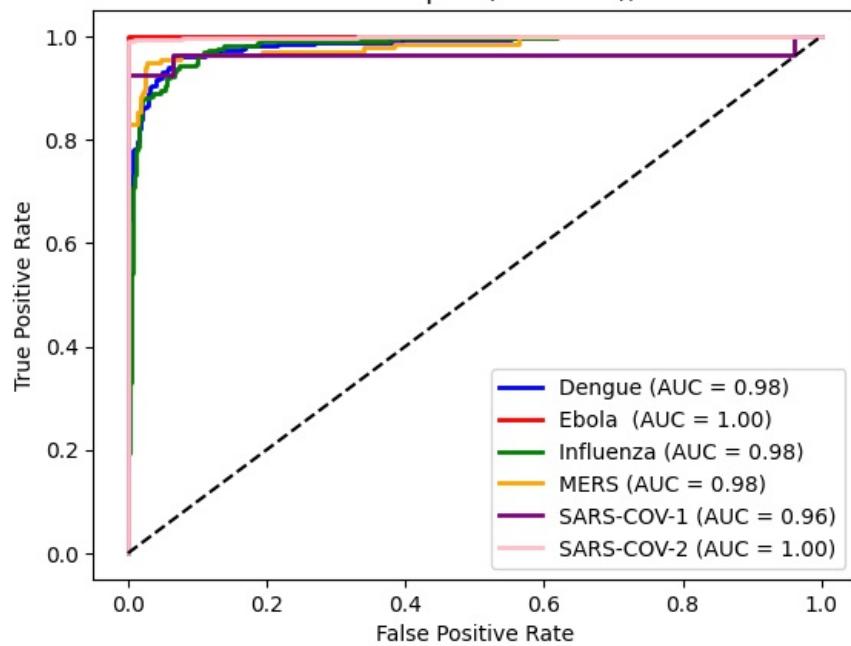
- Accuracy: 0.9231
- Precision: 0.9428
- Recall: 0.9294
- F1\_score: 0.9358

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

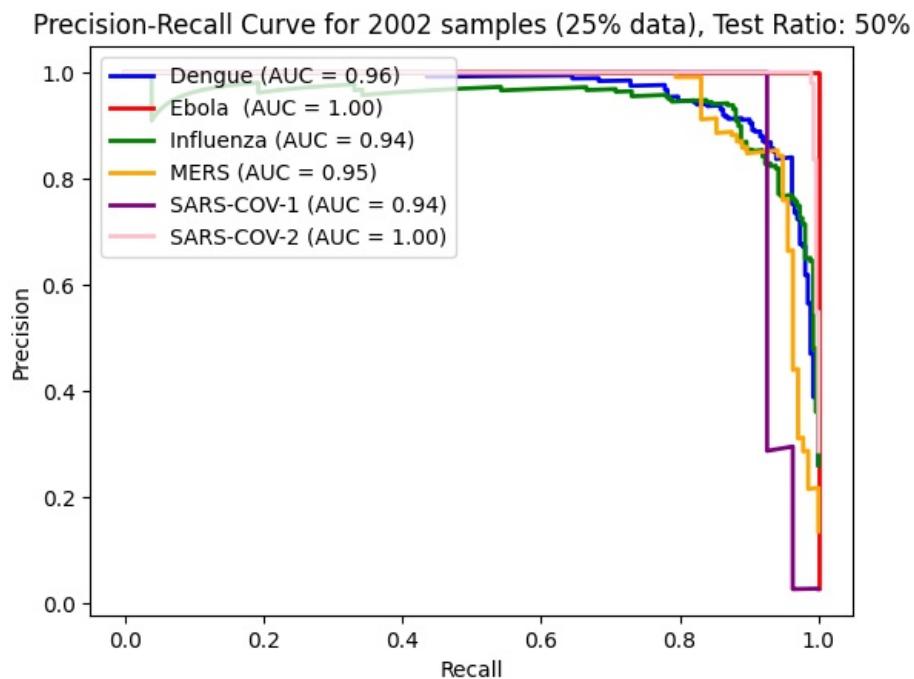


### ROC Curve for 2002 samples (25% data), Test Ratio: 50%

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

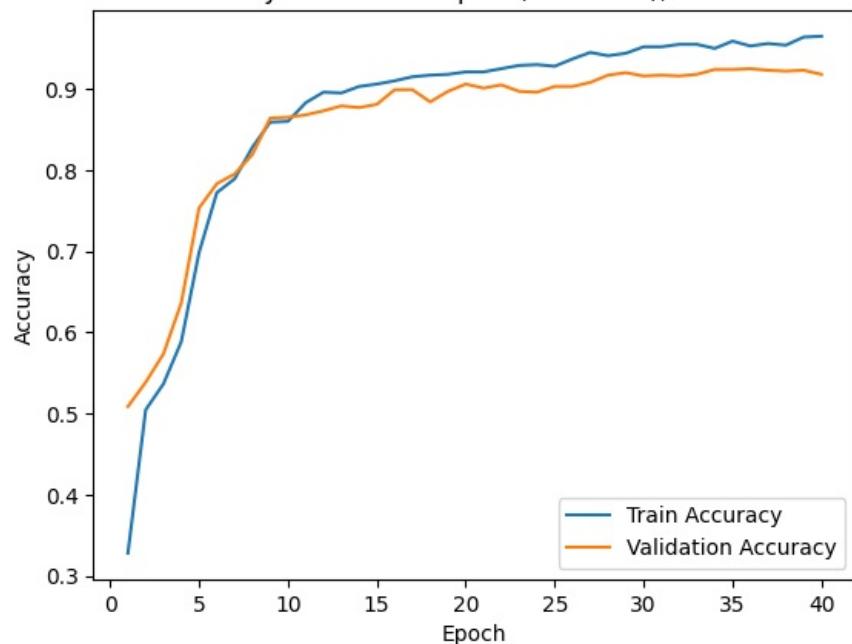


Precision-Recall Curve for 2002 samples (25% data), Test Ratio: 50%

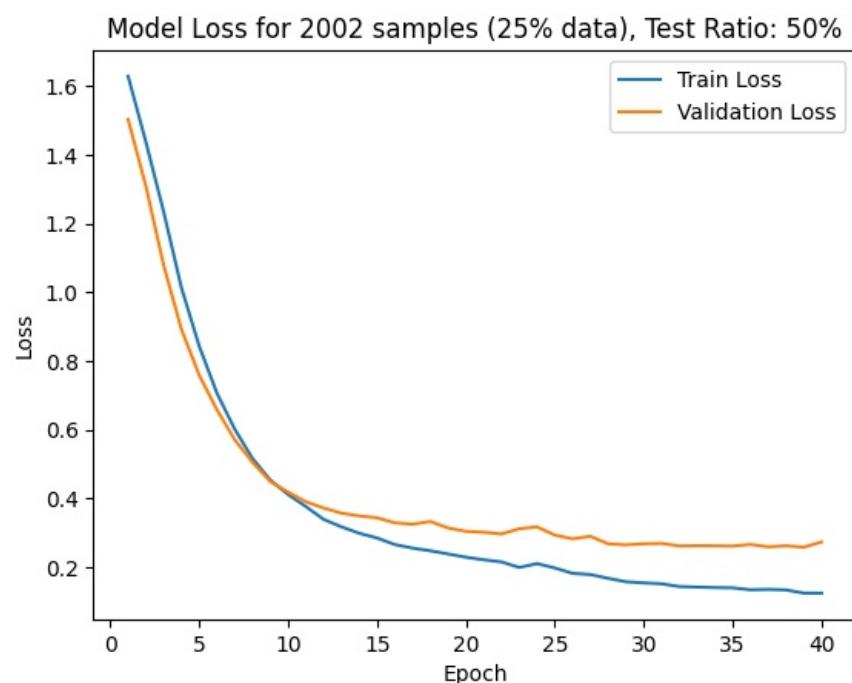


Model Accuracy for 2002 samples (25% data), Test Ratio: 50%

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



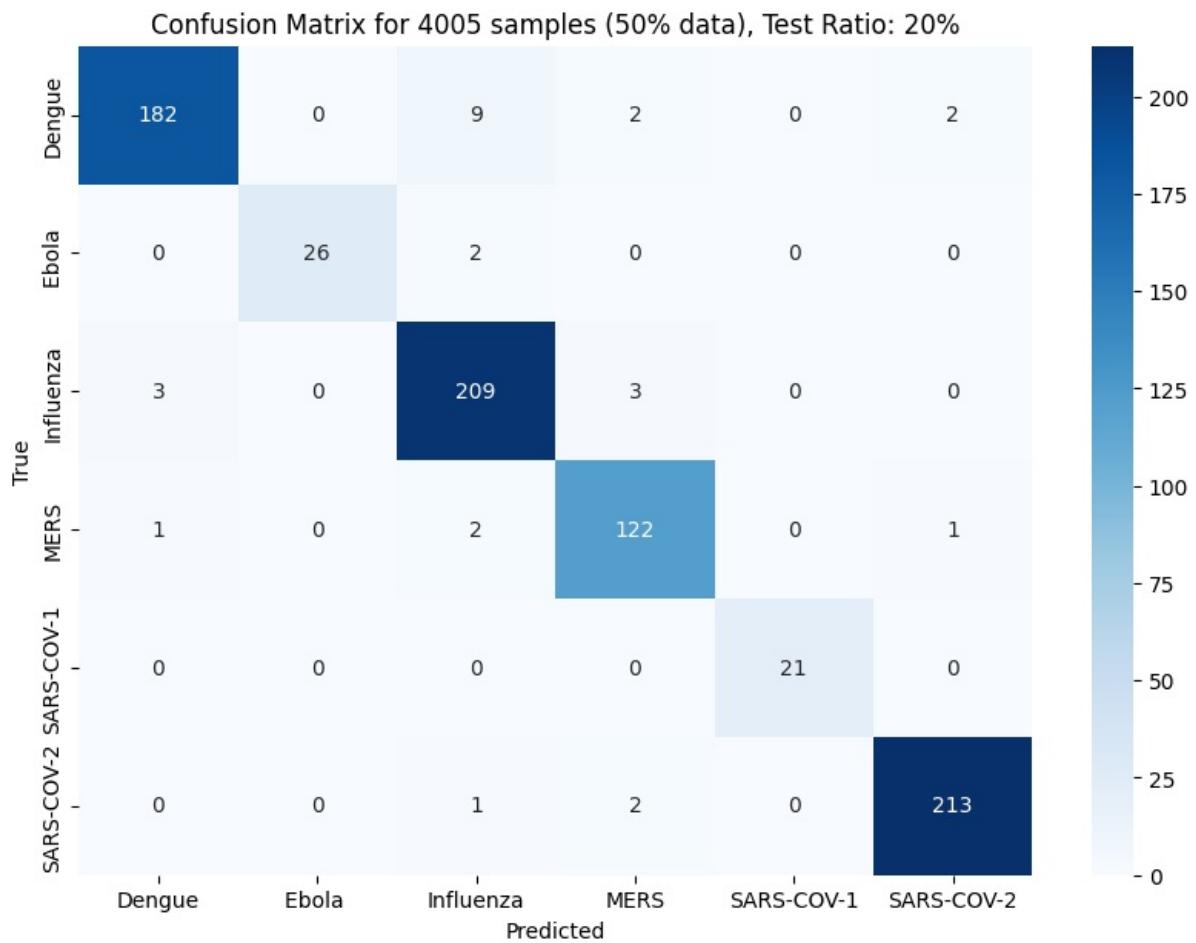
### Model Loss for 2002 samples (25% data), Test Ratio: 50%



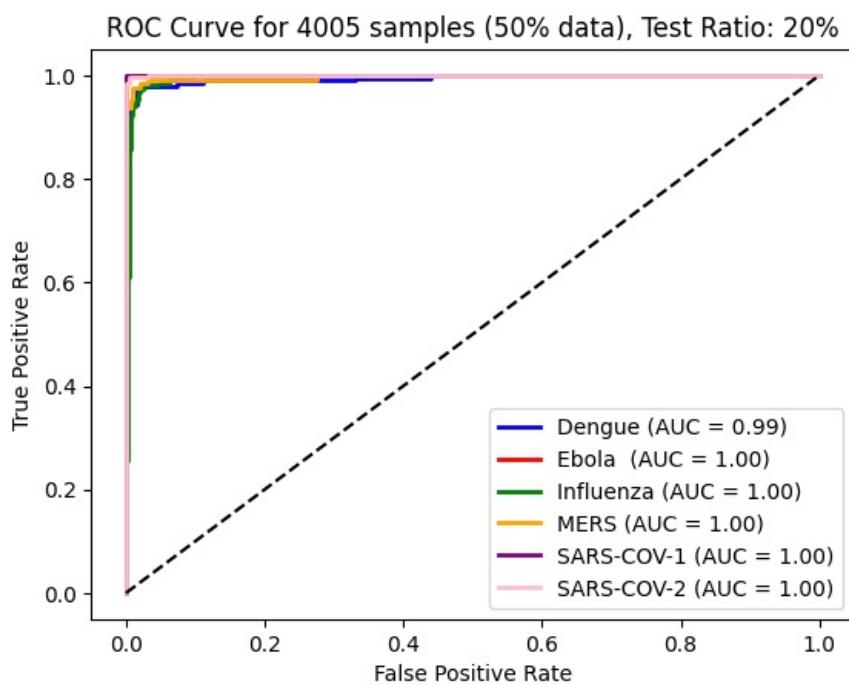
### Data Size: 4005 samples, Test Ratio: 0.2

- Accuracy: 0.9650
- Precision: 0.9746
- Recall: 0.9647
- F1\_score: 0.9693

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

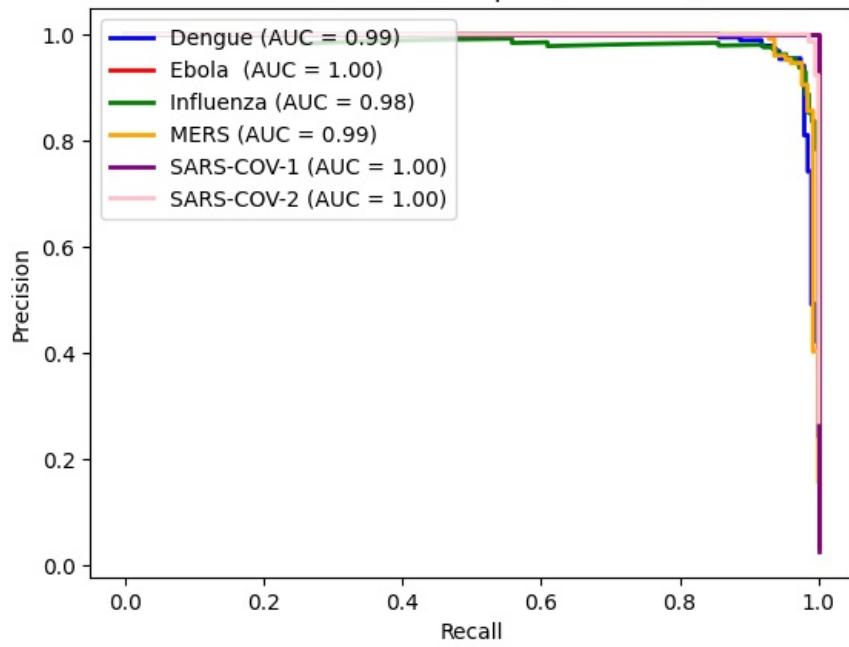


ROC Curve for 4005 samples (50% data), Test Ratio: 20%

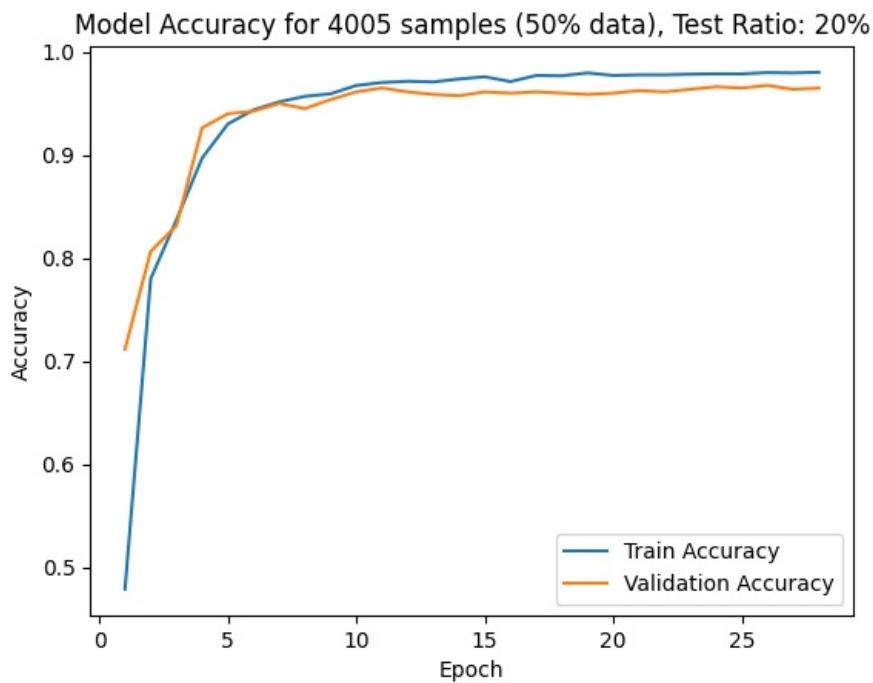


Precision-Recall Curve for 4005 samples (50% data), Test Ratio: 20%

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

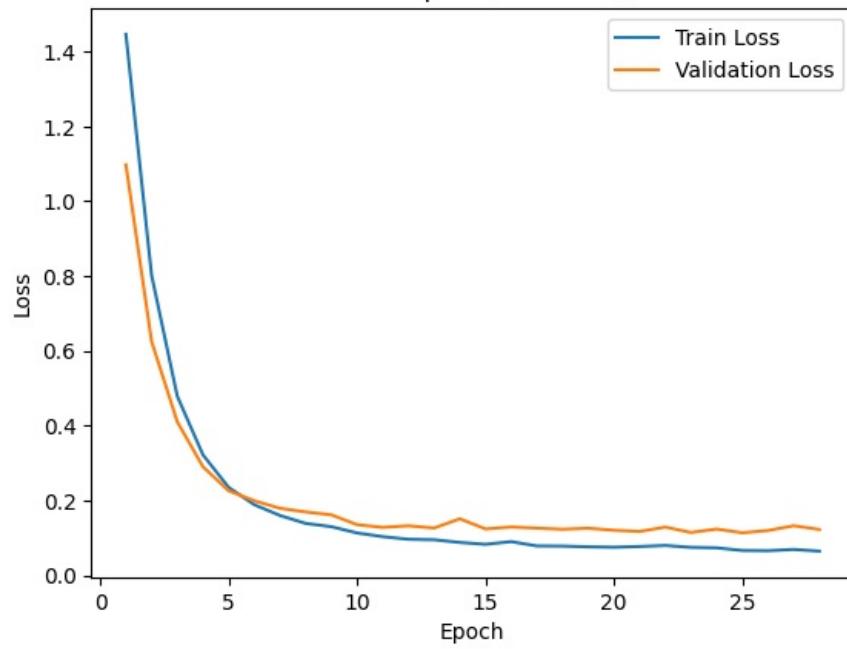


### Model Accuracy for 4005 samples (50% data), Test Ratio: 20%



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

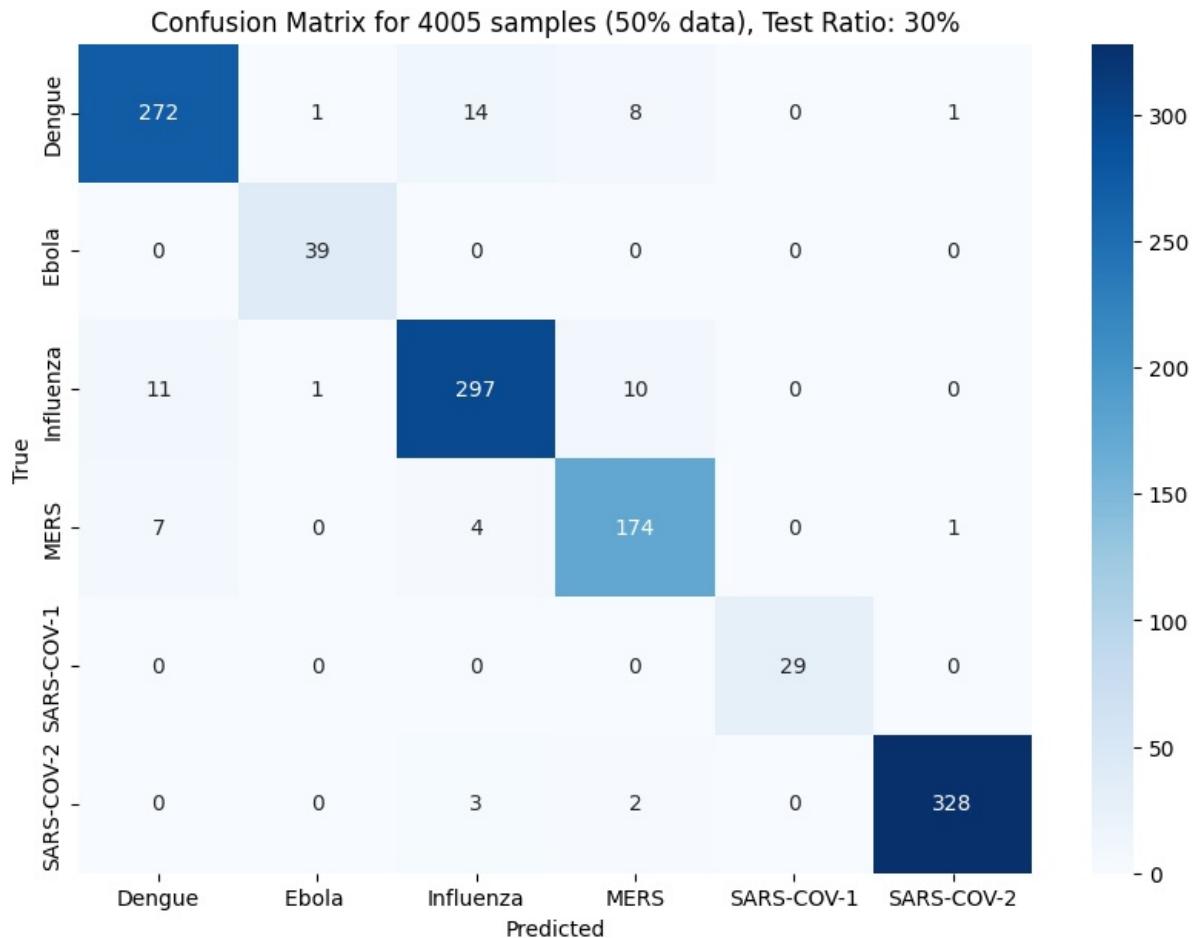
### Model Loss for 4005 samples (50% data), Test Ratio: 20%



**Data Size: 4005 samples, Test Ratio: 0.3**

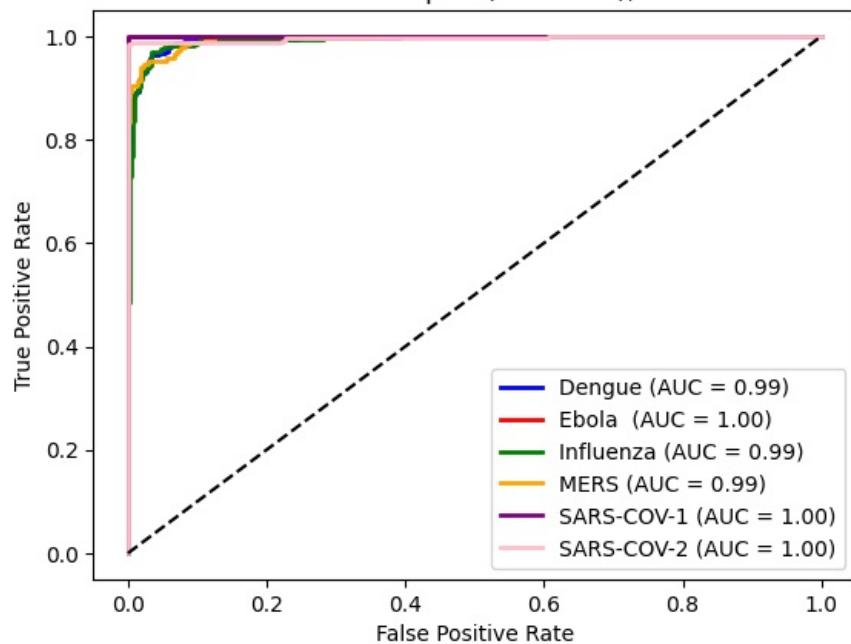
- Accuracy: 0.9476
- Precision: 0.9523
- Recall: 0.9617
- F1\_score: 0.9568

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

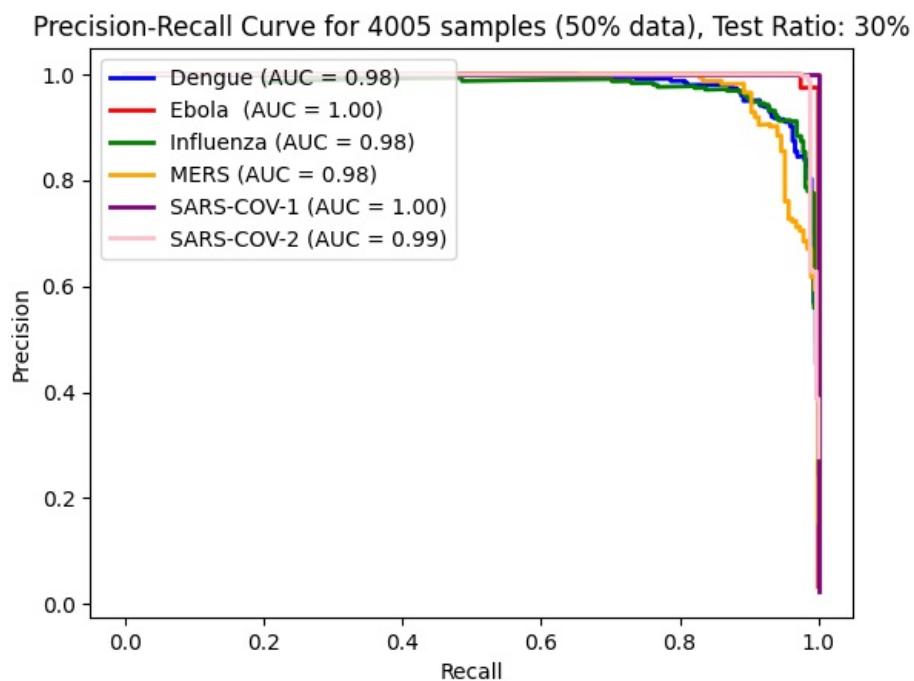


**ROC Curve for 4005 samples (50% data), Test Ratio: 30%**

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

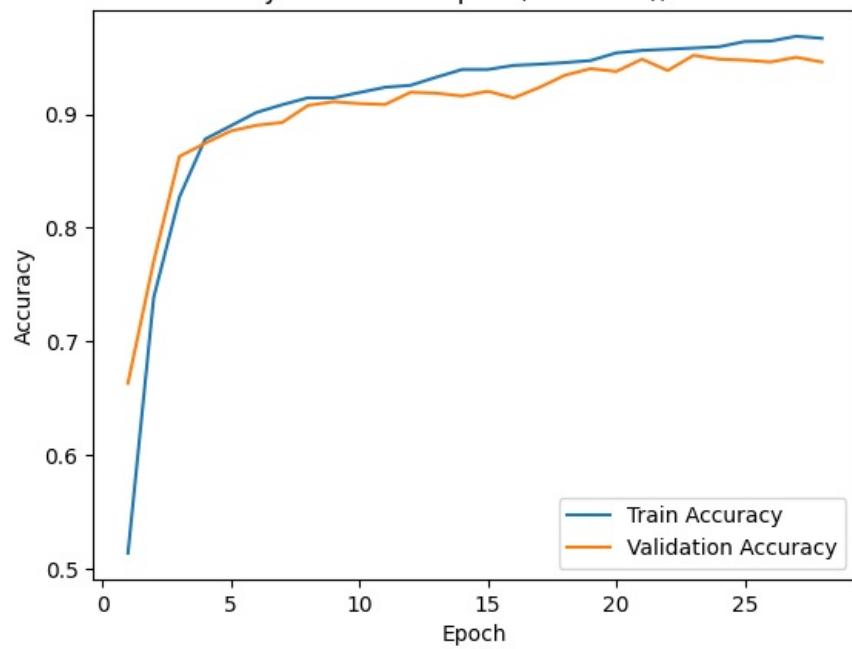


Precision-Recall Curve for 4005 samples (50% data), Test Ratio: 30%

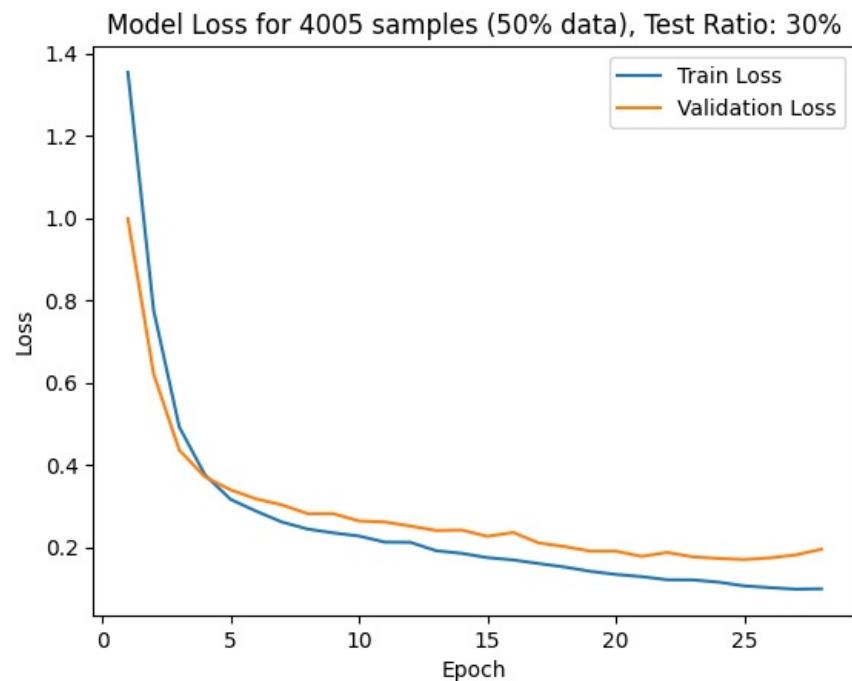


Model Accuracy for 4005 samples (50% data), Test Ratio: 30%

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



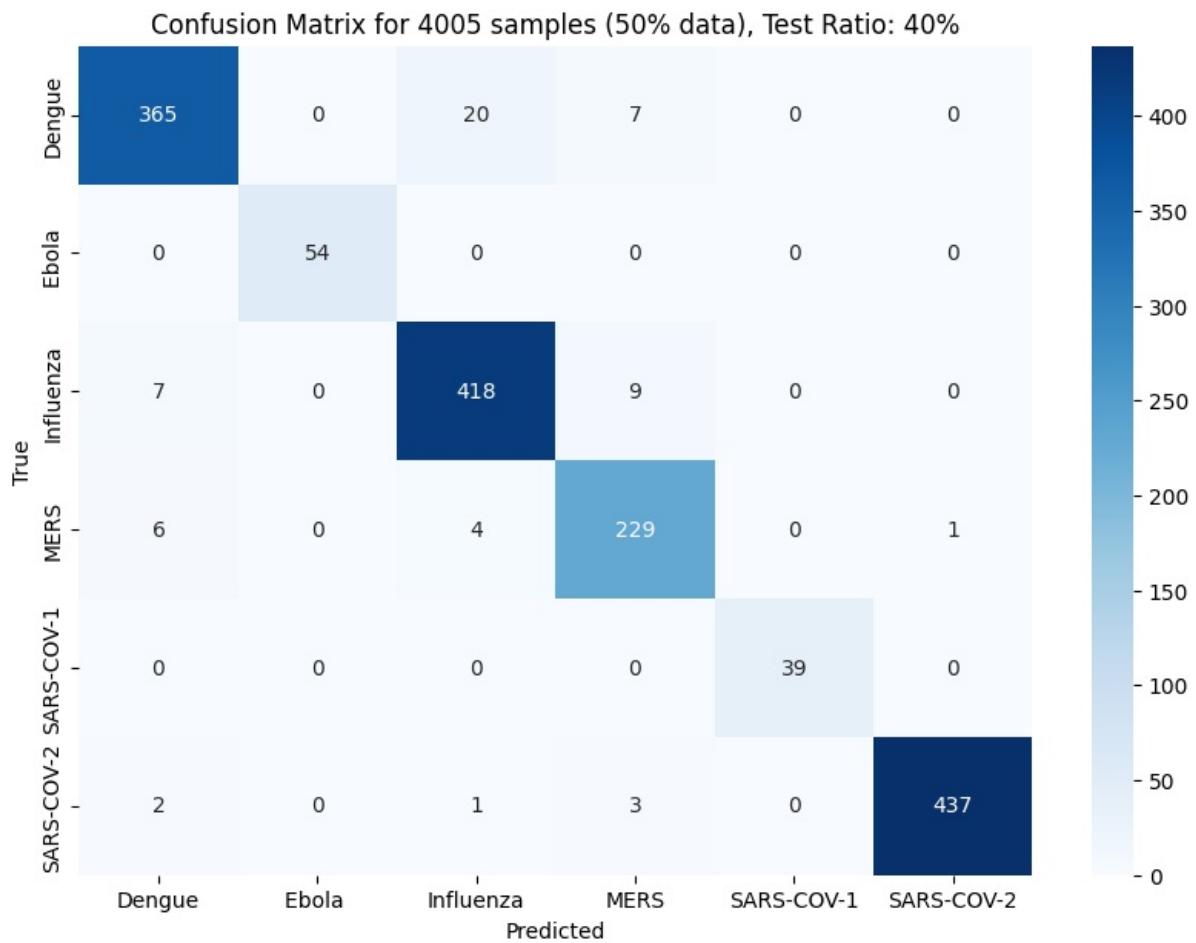
### Model Loss for 4005 samples (50% data), Test Ratio: 30%



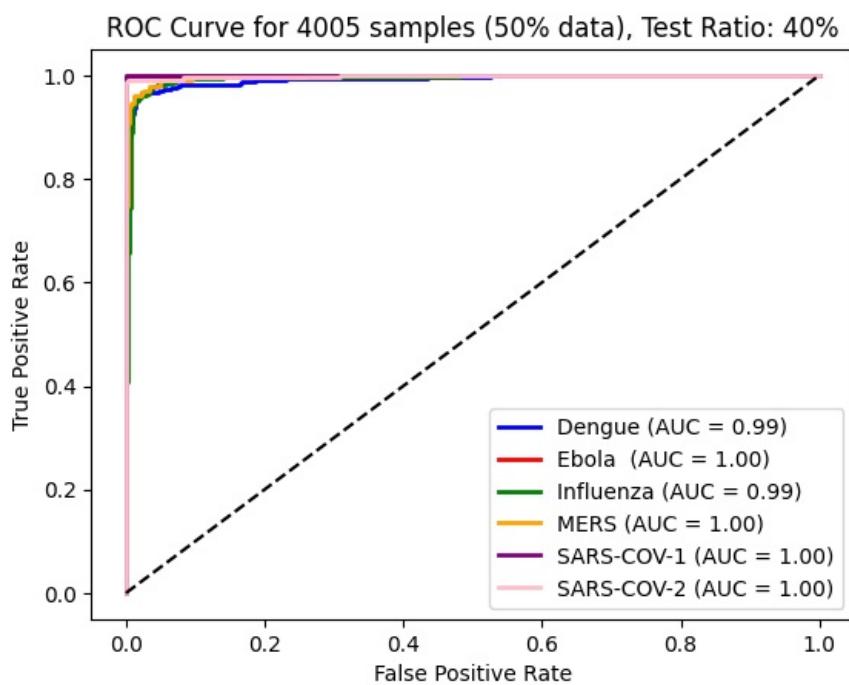
### Data Size: 4005 samples, Test Ratio: 0.4

- Accuracy: 0.9625
- Precision: 0.9709
- Recall: 0.9725
- F1\_score: 0.9716

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

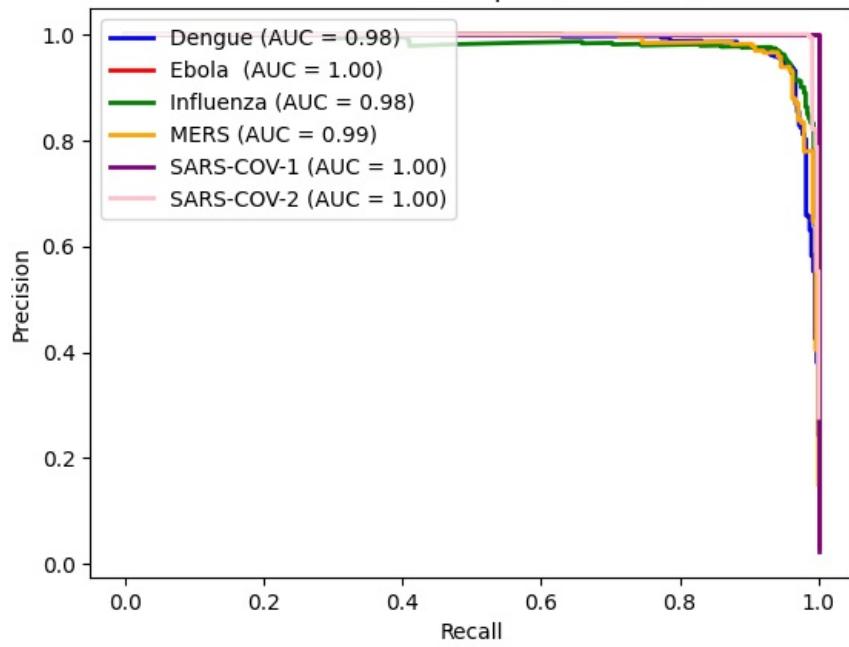


ROC Curve for 4005 samples (50% data), Test Ratio: 40%

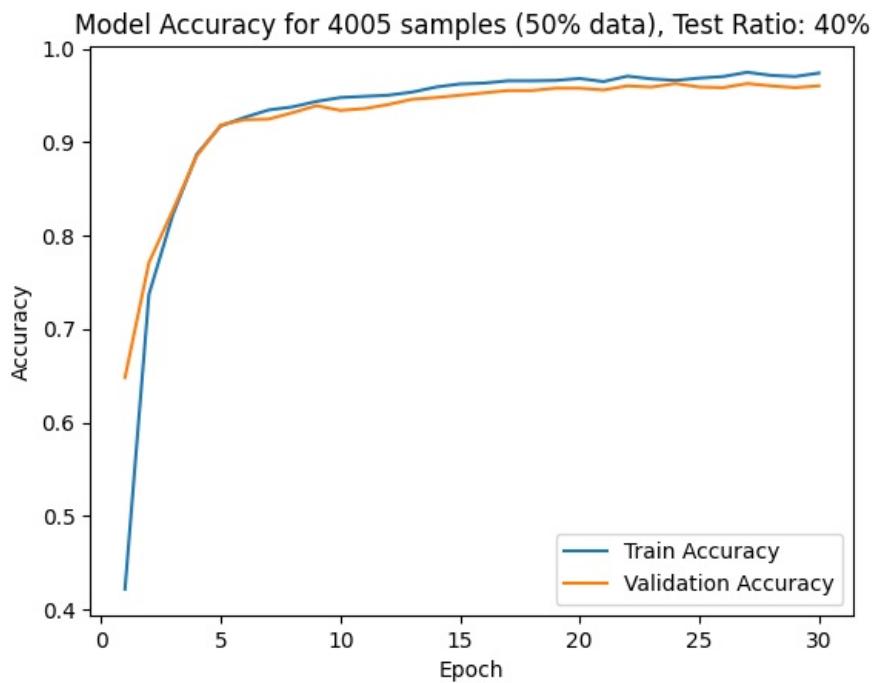


Precision-Recall Curve for 4005 samples (50% data), Test Ratio: 40%

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

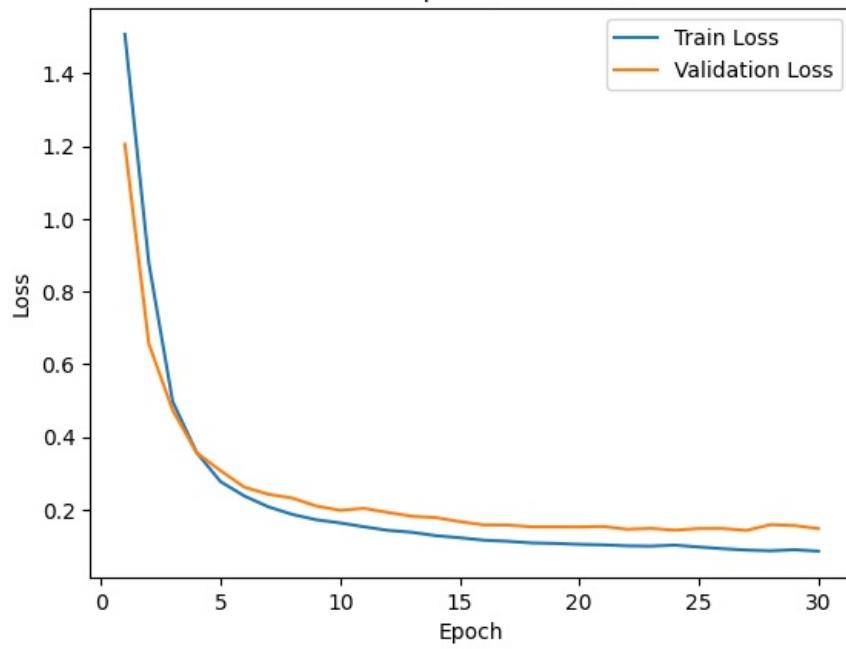


### Model Accuracy for 4005 samples (50% data), Test Ratio: 40%



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

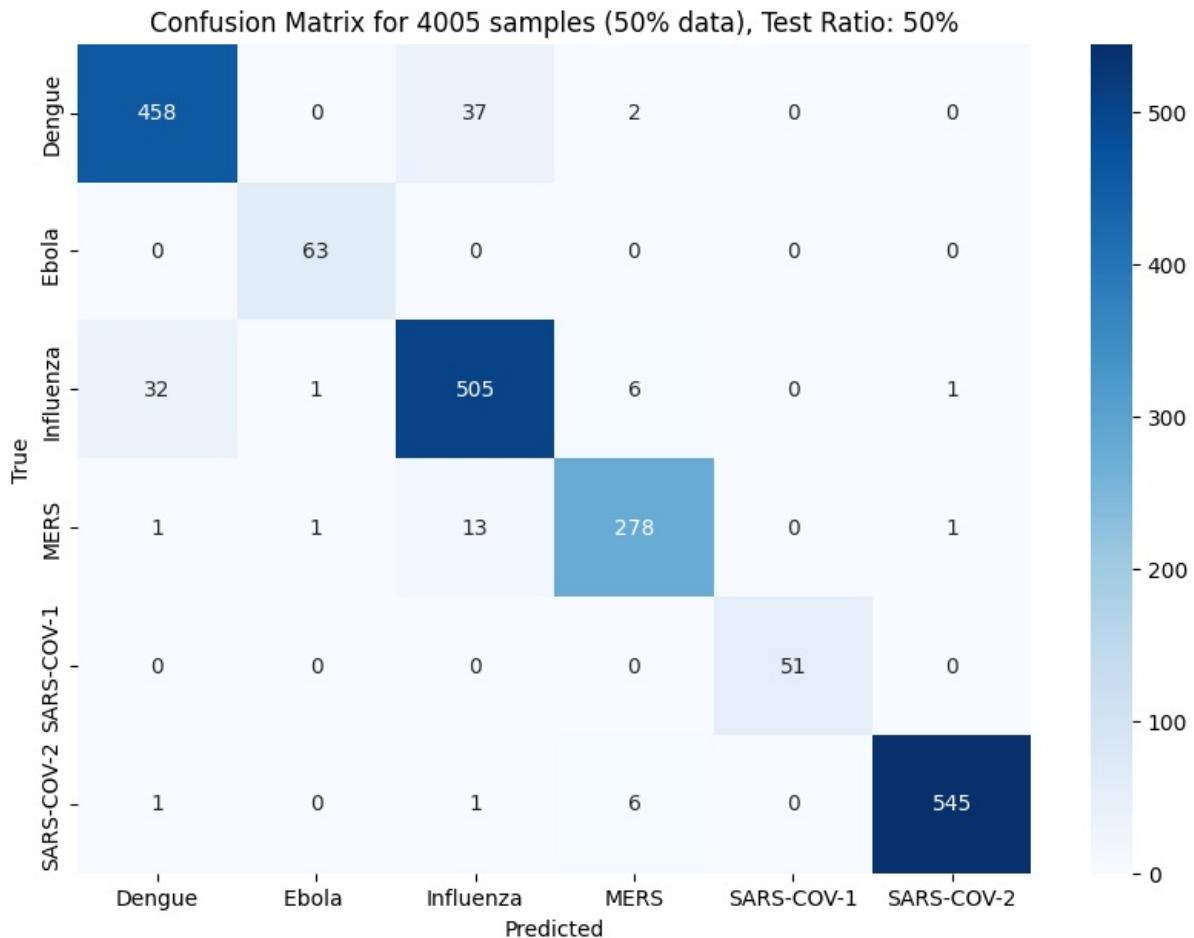
### Model Loss for 4005 samples (50% data), Test Ratio: 40%



**Data Size: 4005 samples, Test Ratio: 0.5**

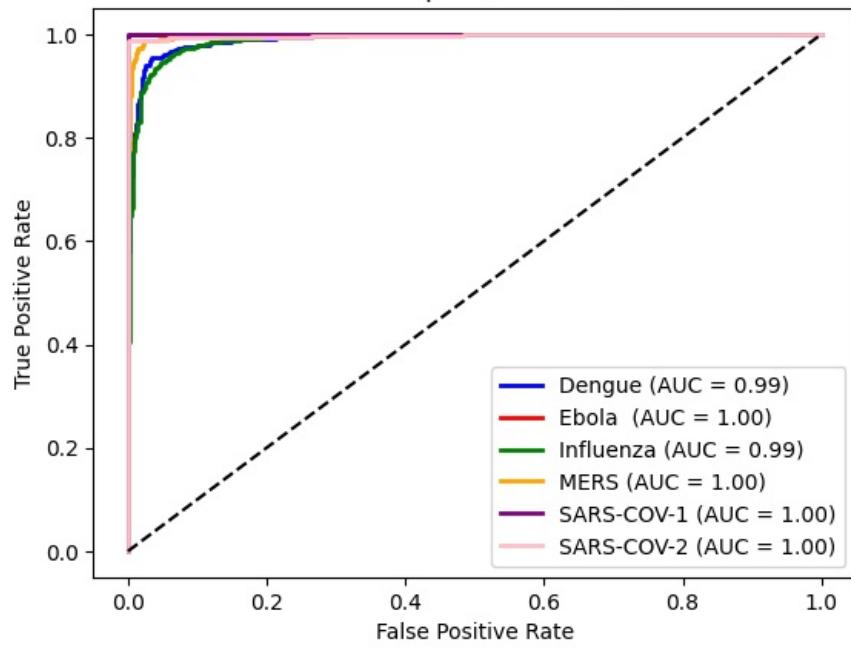
- Accuracy: 0.9486
- Precision: 0.9595
- Recall: 0.9632
- F1\_score: 0.9613

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

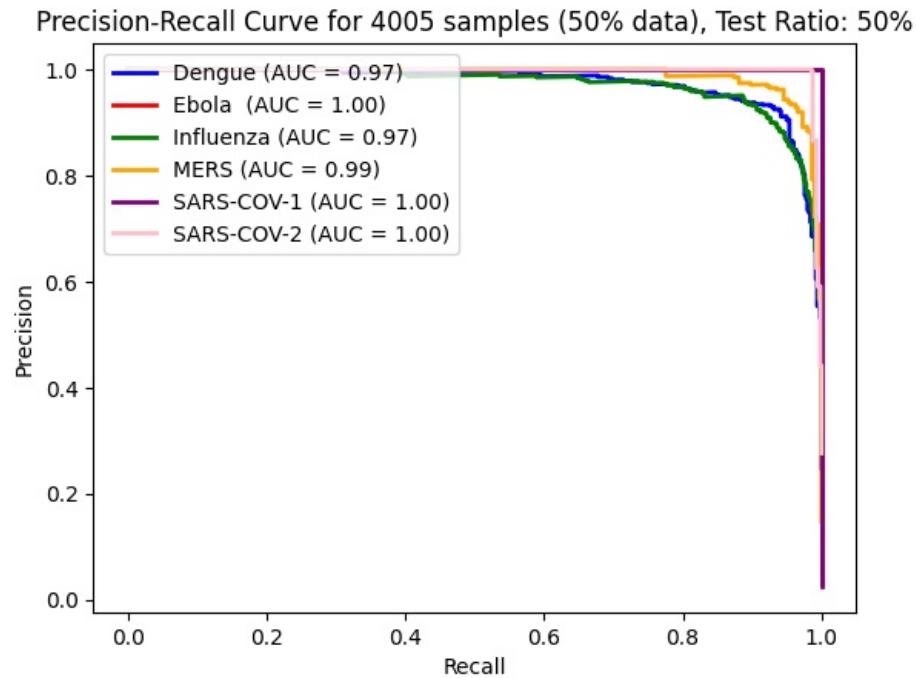


**ROC Curve for 4005 samples (50% data), Test Ratio: 50%**

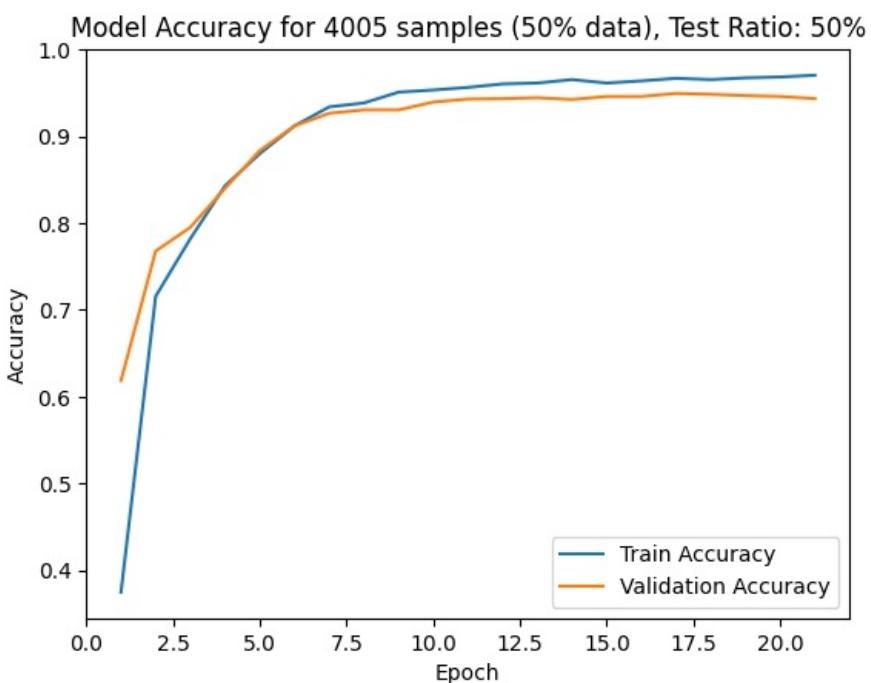
ROC Curve for 4005 samples (50% data), Test Ratio: 50%



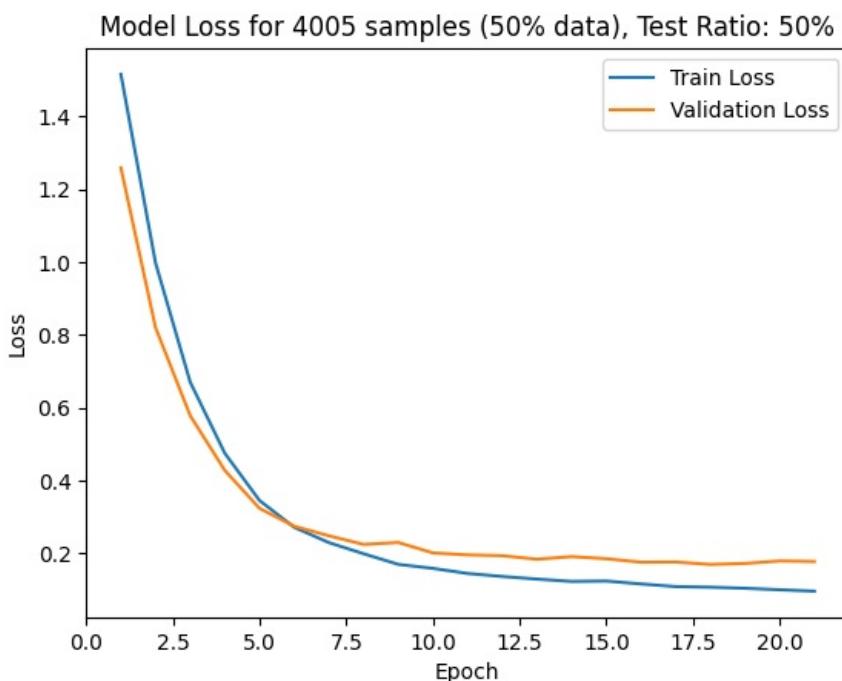
Precision-Recall Curve for 4005 samples (50% data), Test Ratio: 50%



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



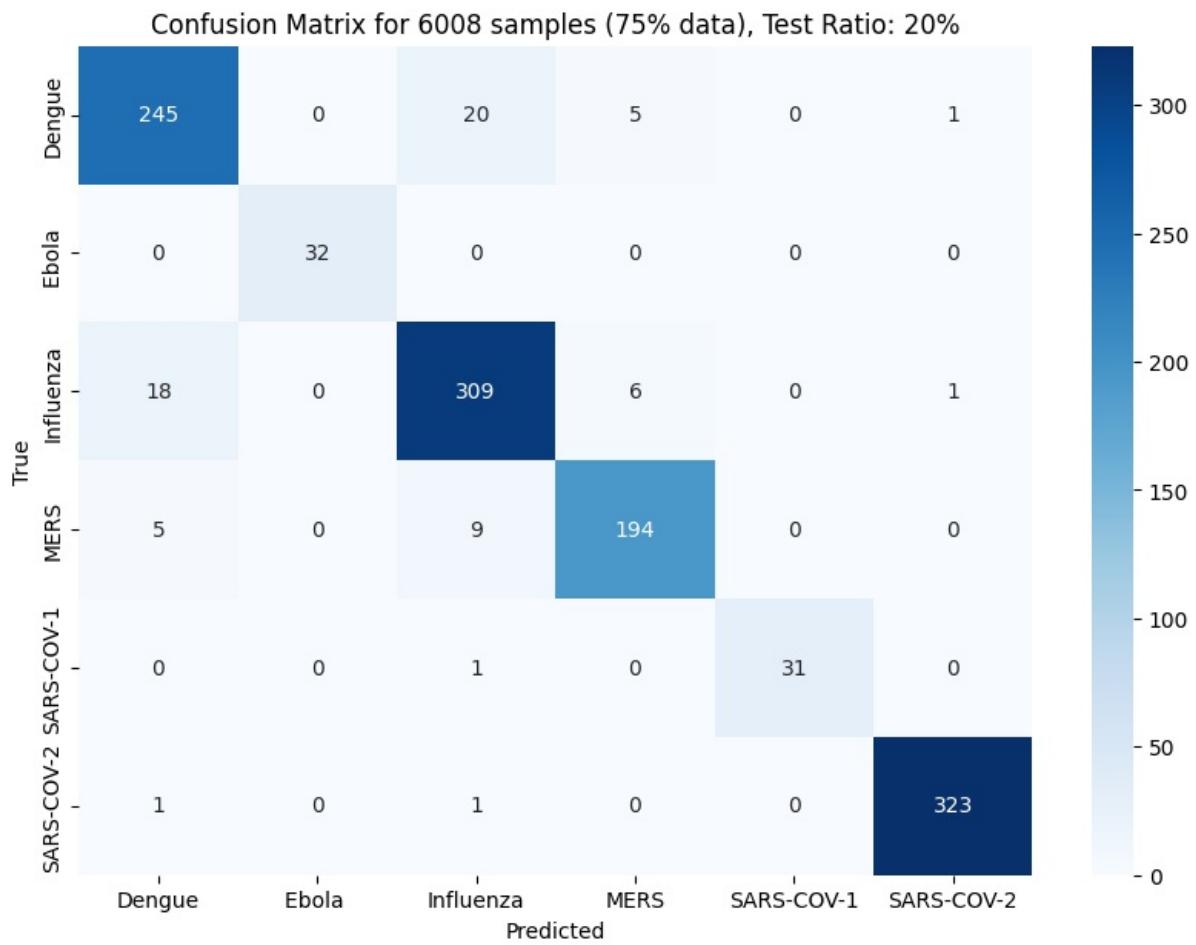
Model Loss for 4005 samples (50% data), Test Ratio: 50%



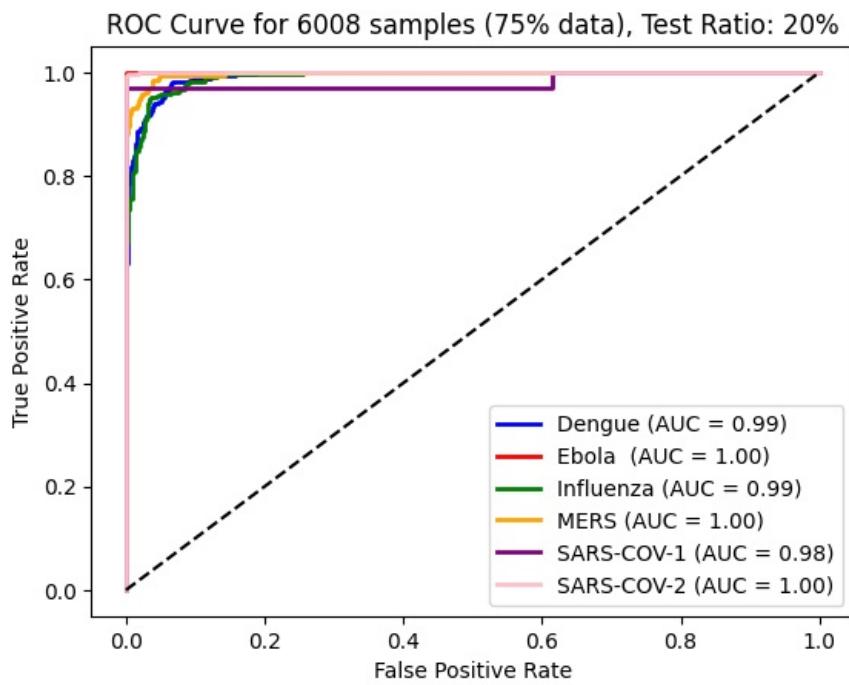
Data Size: 6008 samples, Test Ratio: 0.2

- Accuracy: 0.9434
- Precision: 0.9600
- Recall: 0.9541
- F1\_score: 0.9570

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

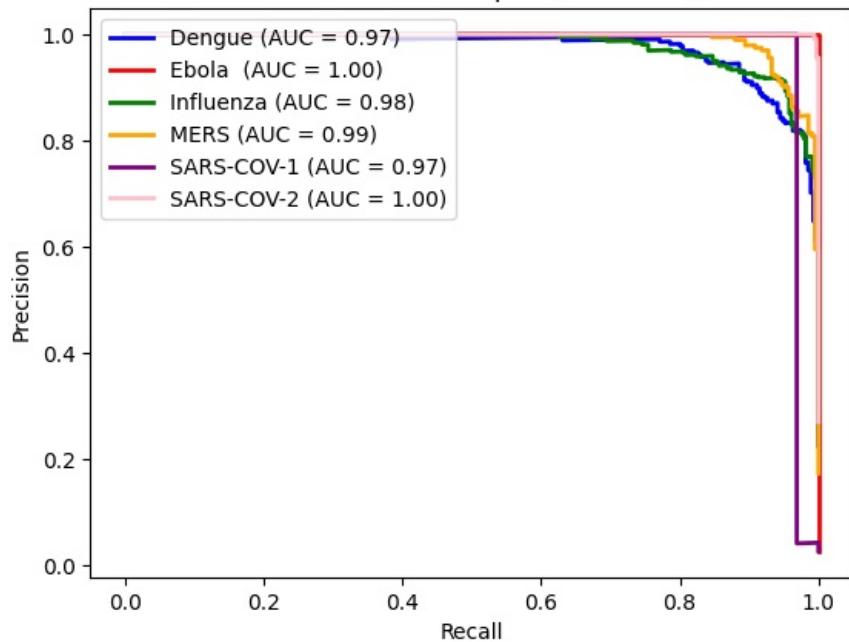


ROC Curve for 6008 samples (75% data), Test Ratio: 20%

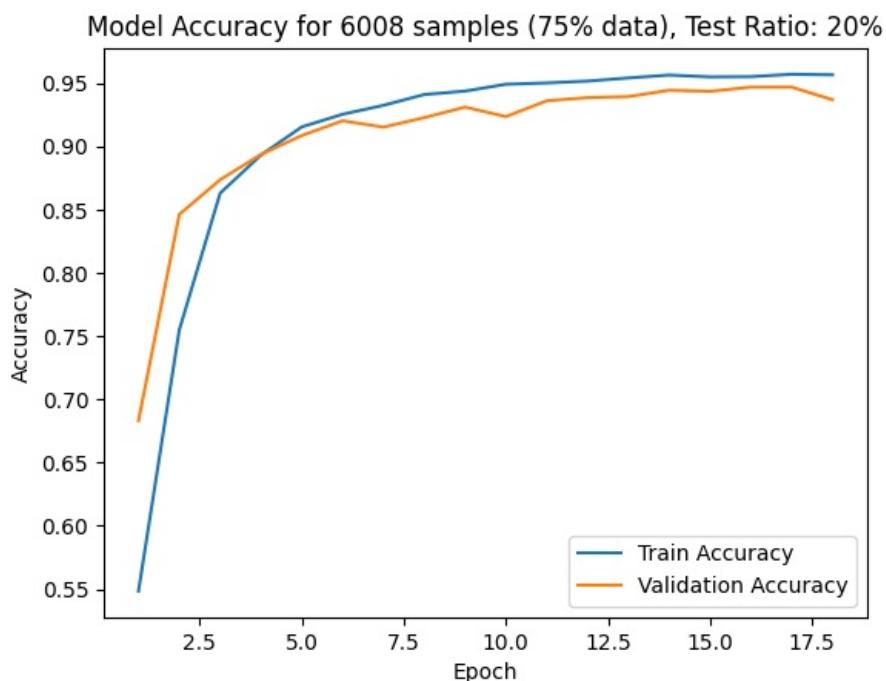


Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 20%

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

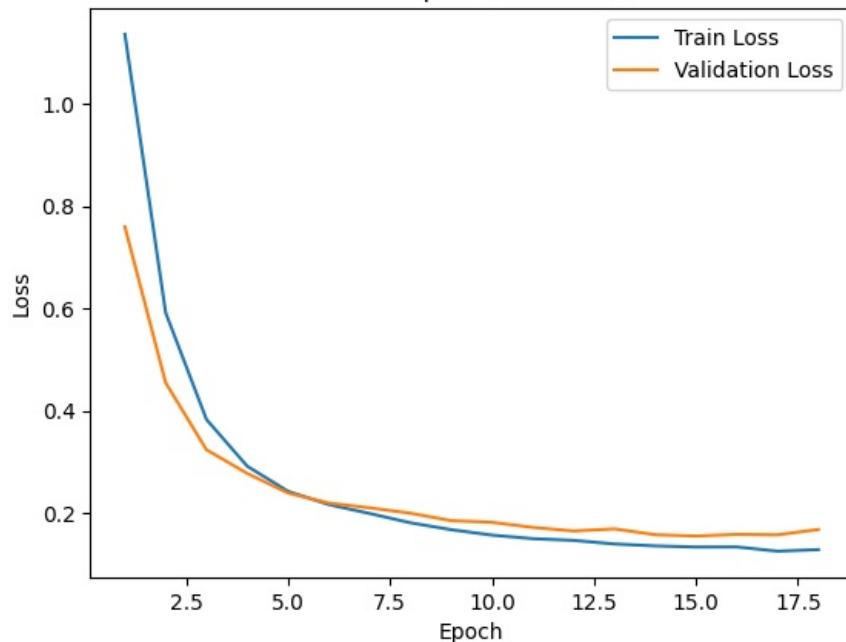


### Model Accuracy for 6008 samples (75% data), Test Ratio: 20%



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

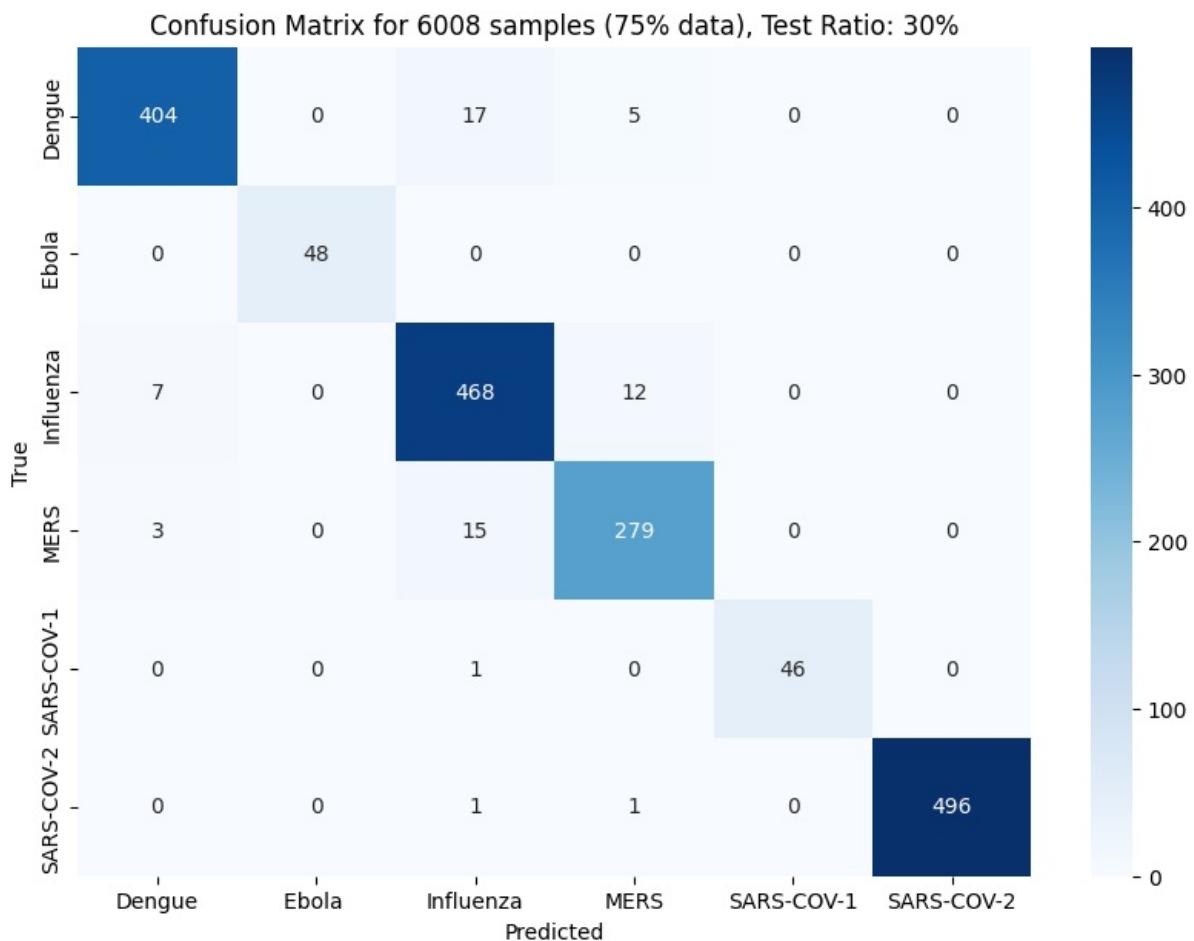
### Model Loss for 6008 samples (75% data), Test Ratio: 20%



**Data Size: 6008 samples, Test Ratio: 0.3**

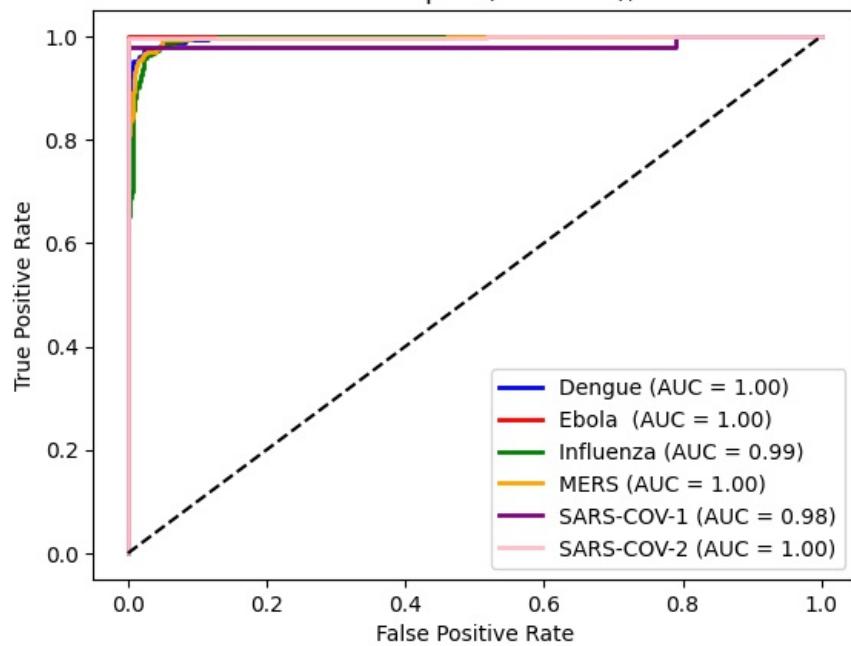
- Accuracy: 0.9656
- Precision: 0.9746
- Recall: 0.9706
- F1\_score: 0.9725

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

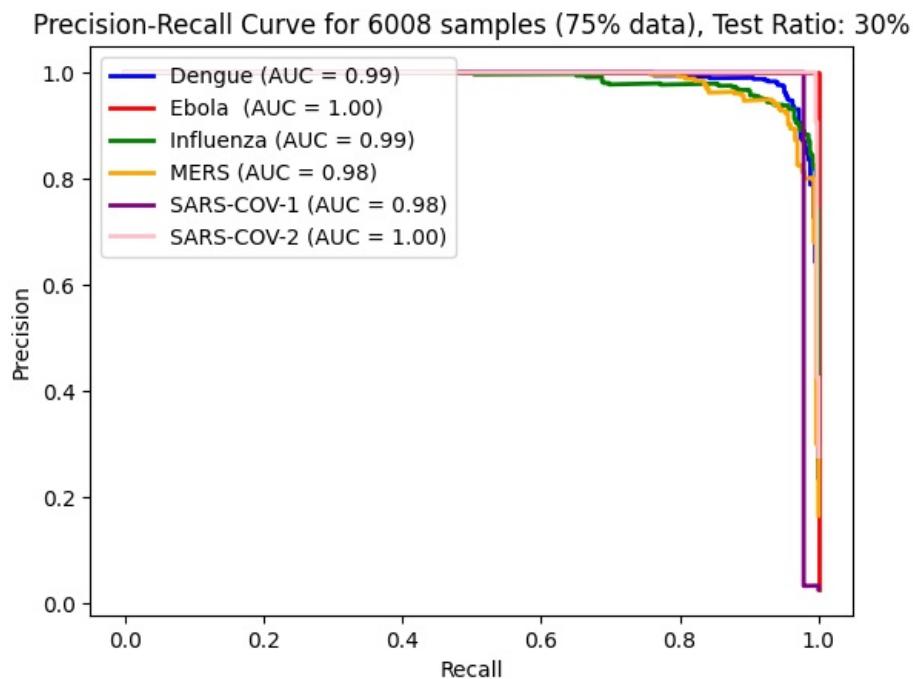


**ROC Curve for 6008 samples (75% data), Test Ratio: 30%**

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

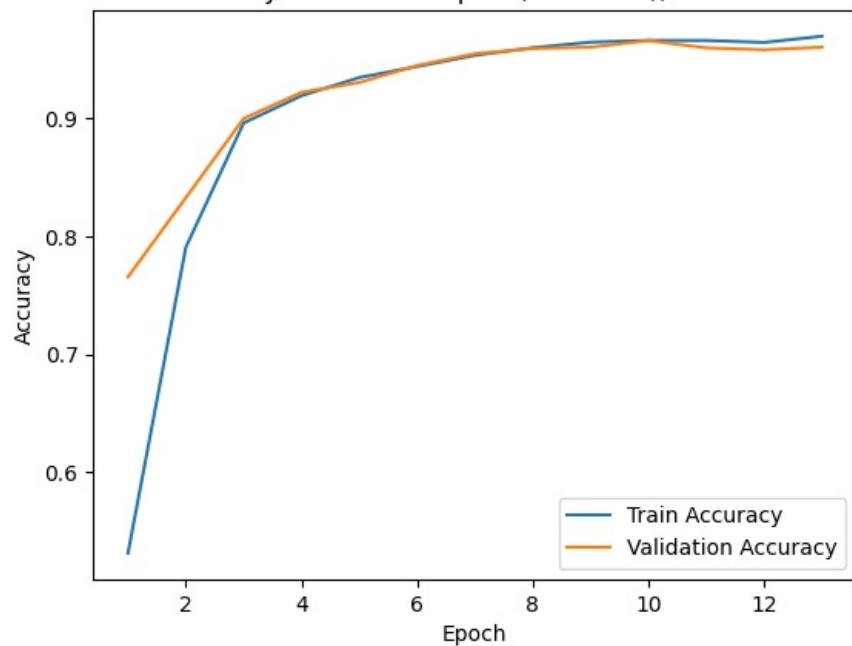


Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 30%

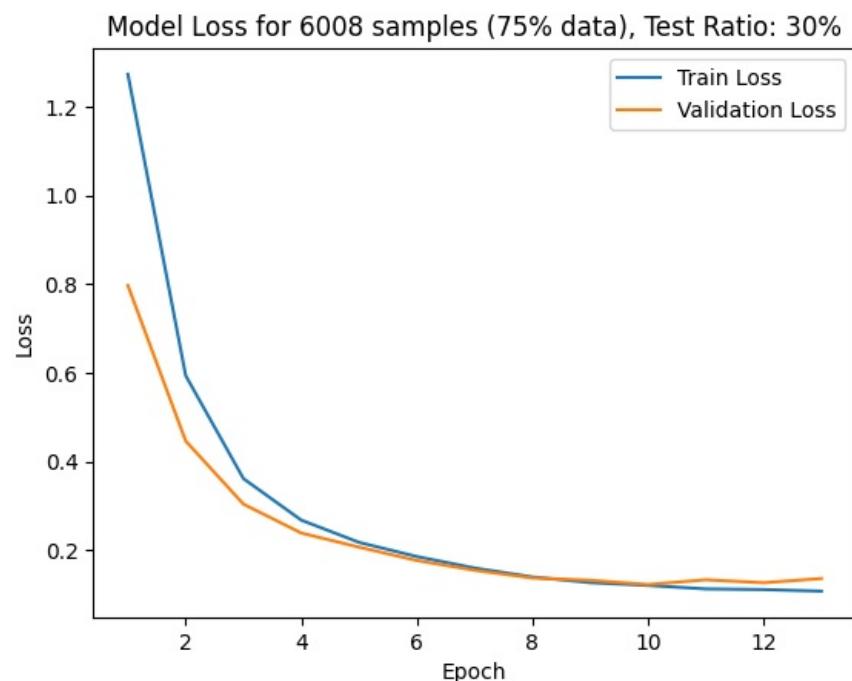


Model Accuracy for 6008 samples (75% data), Test Ratio: 30%

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



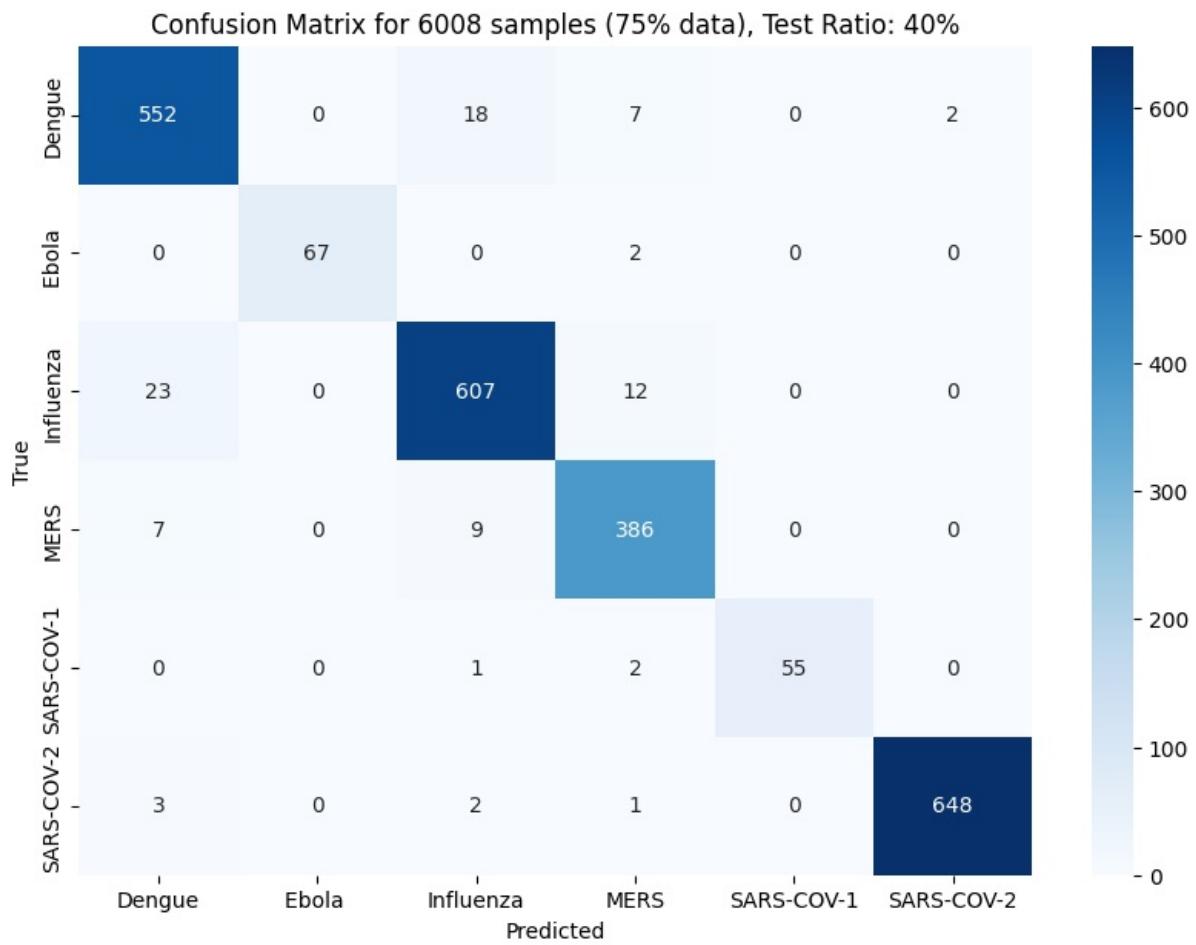
Model Loss for 6008 samples (75% data), Test Ratio: 30%



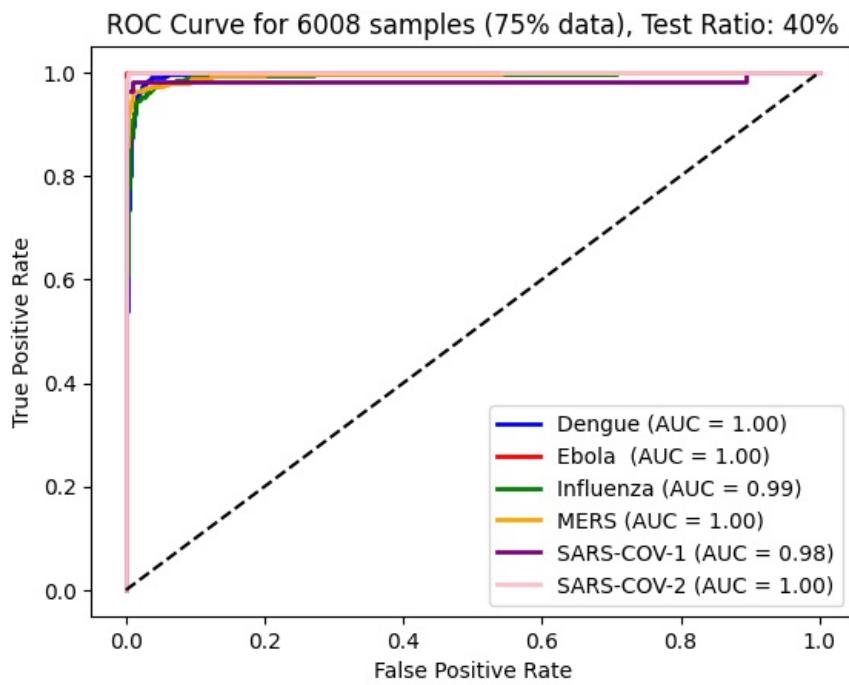
Data Size: 6008 samples, Test Ratio: 0.4

- Accuracy: 0.9630
- Precision: 0.9725
- Recall: 0.9615
- F1\_score: 0.9668

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

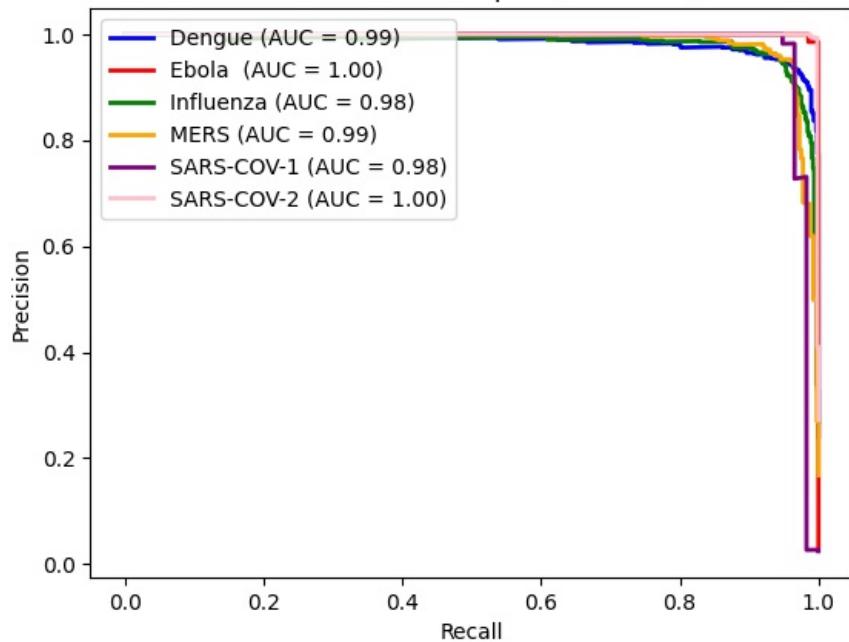


ROC Curve for 6008 samples (75% data), Test Ratio: 40%

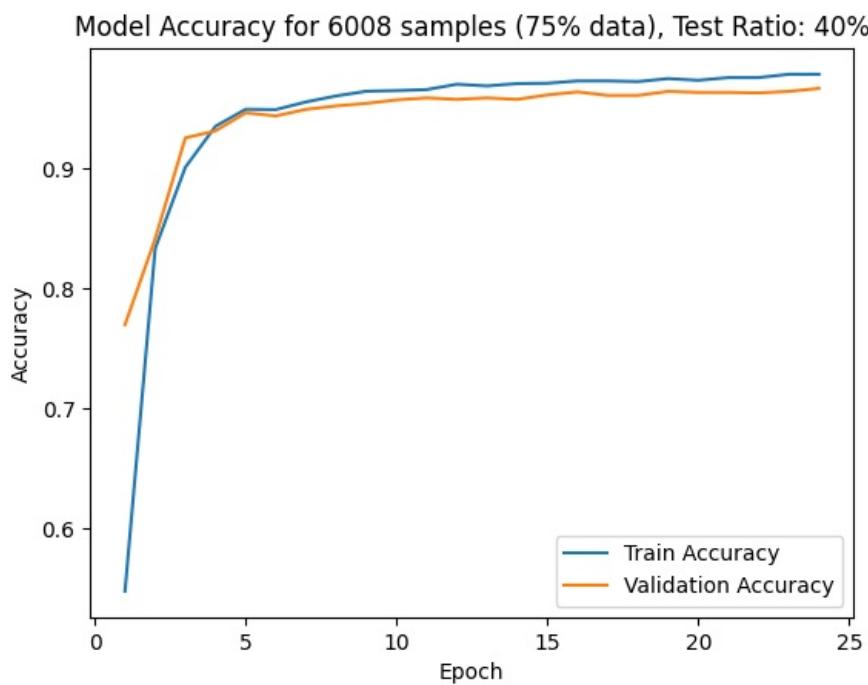


Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 40%

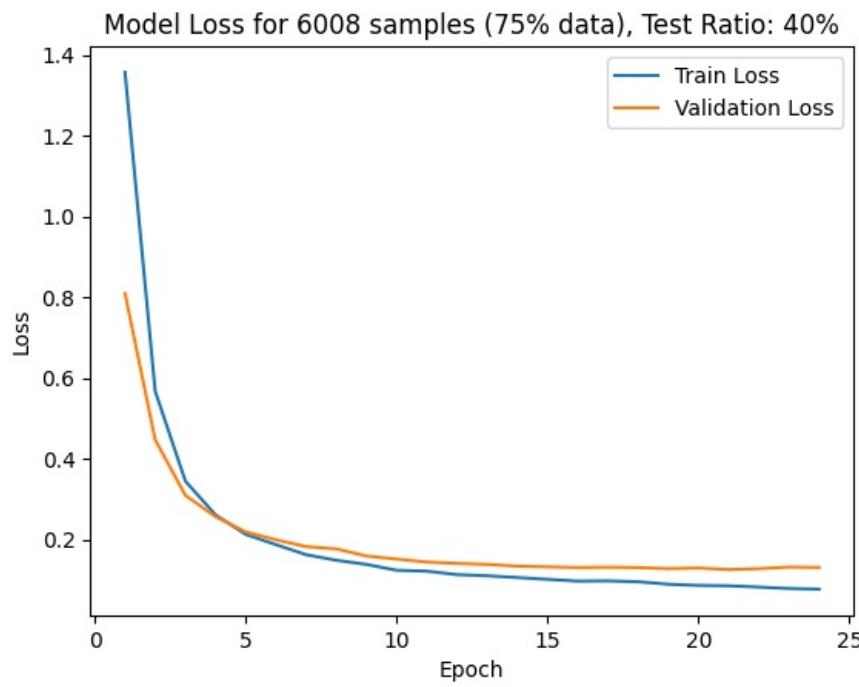
### Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 40%



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



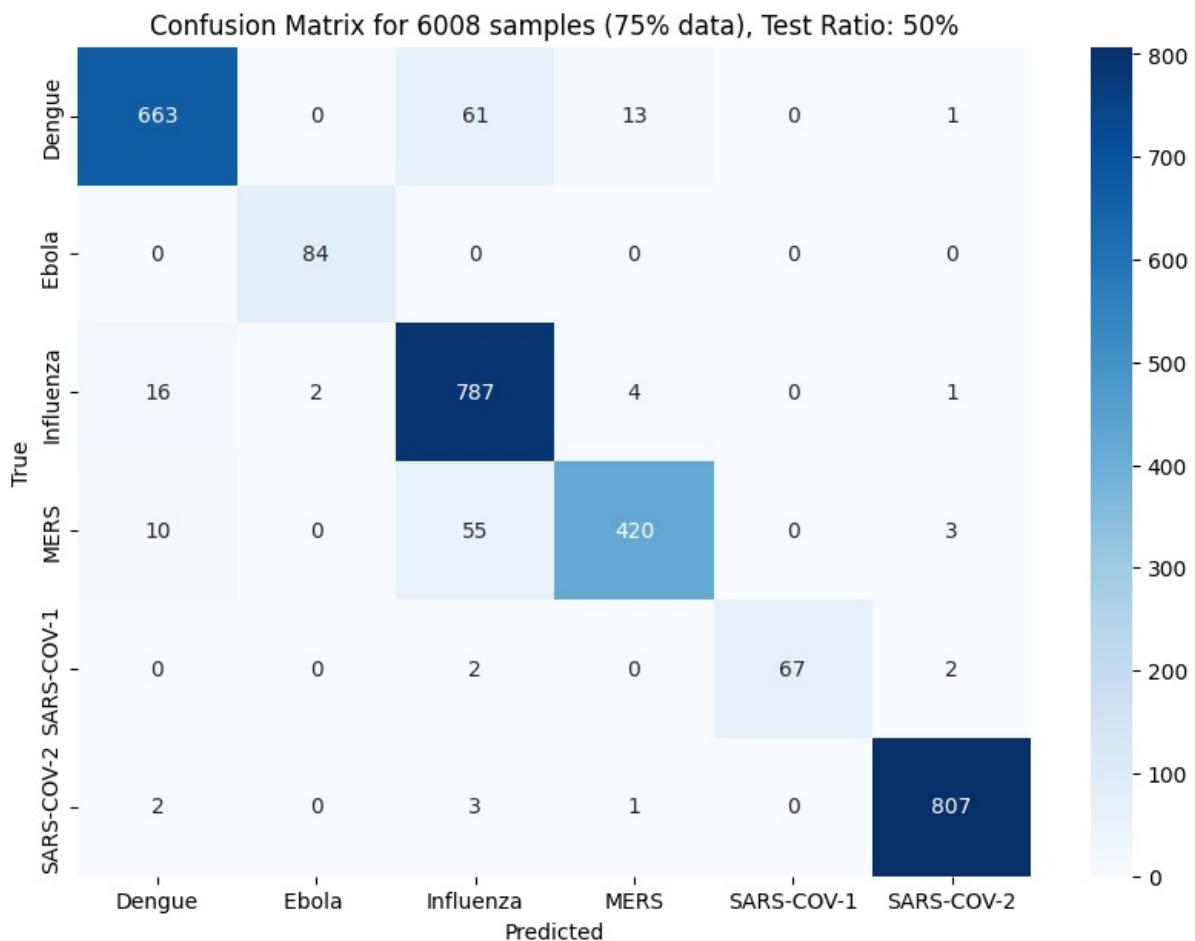
### Model Loss for 6008 samples (75% data), Test Ratio: 40%



**Data Size: 6008 samples, Test Ratio: 0.5**

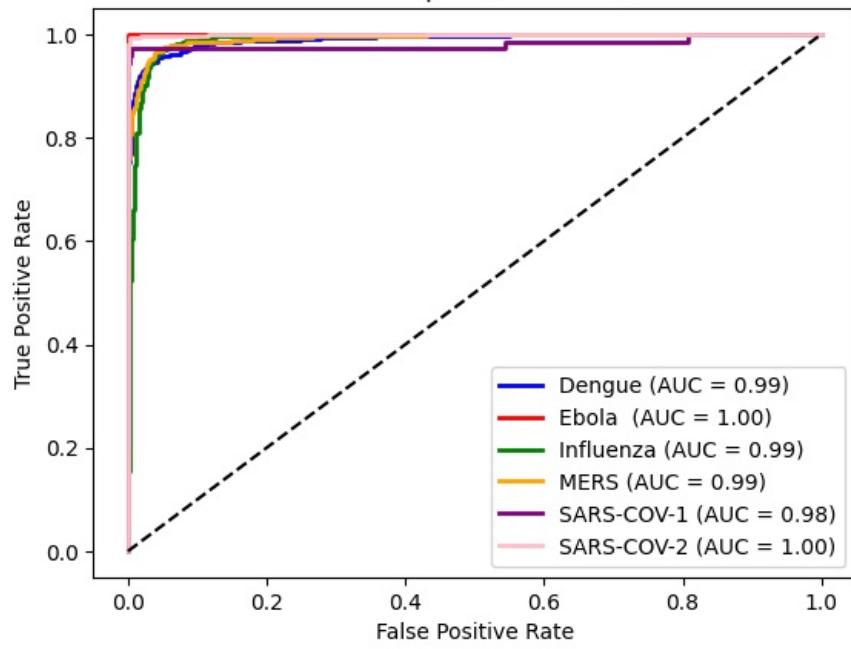
- Accuracy: 0.9414
- Precision: 0.9589
- Recall: 0.9445
- F1\_score: 0.9504

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

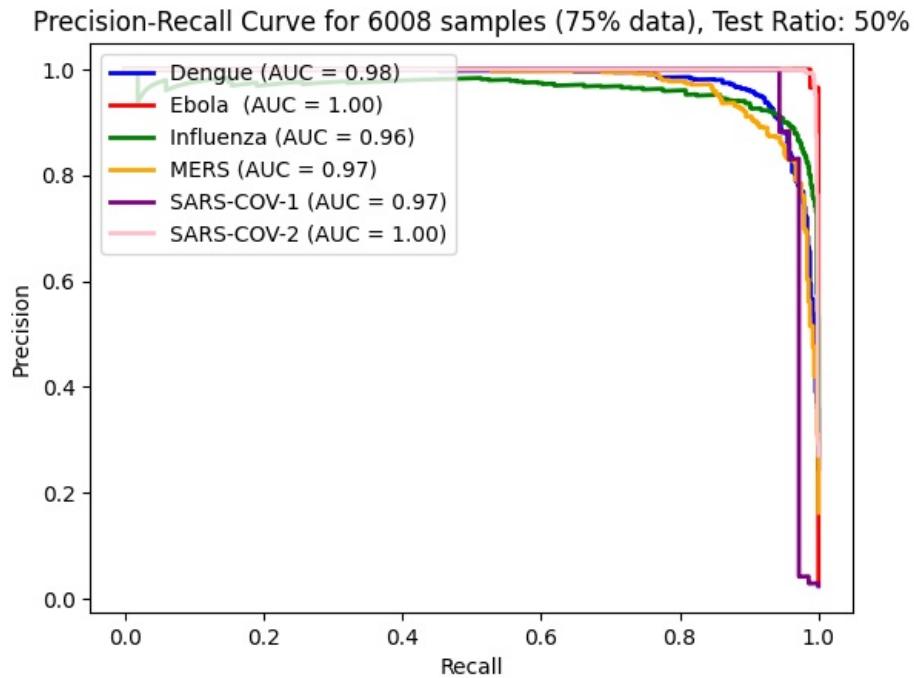


**ROC Curve for 6008 samples (75% data), Test Ratio: 50%**

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

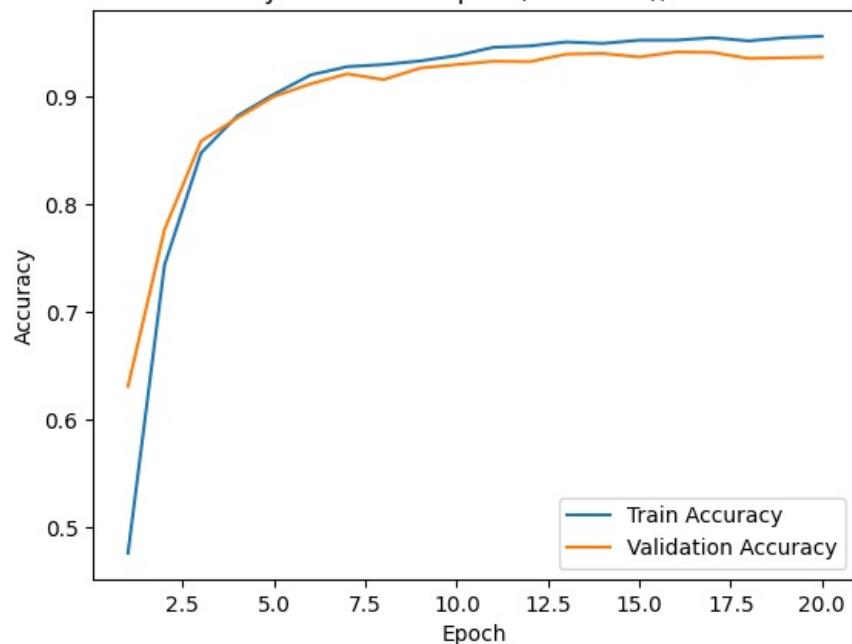


Precision-Recall Curve for 6008 samples (75% data), Test Ratio: 50%

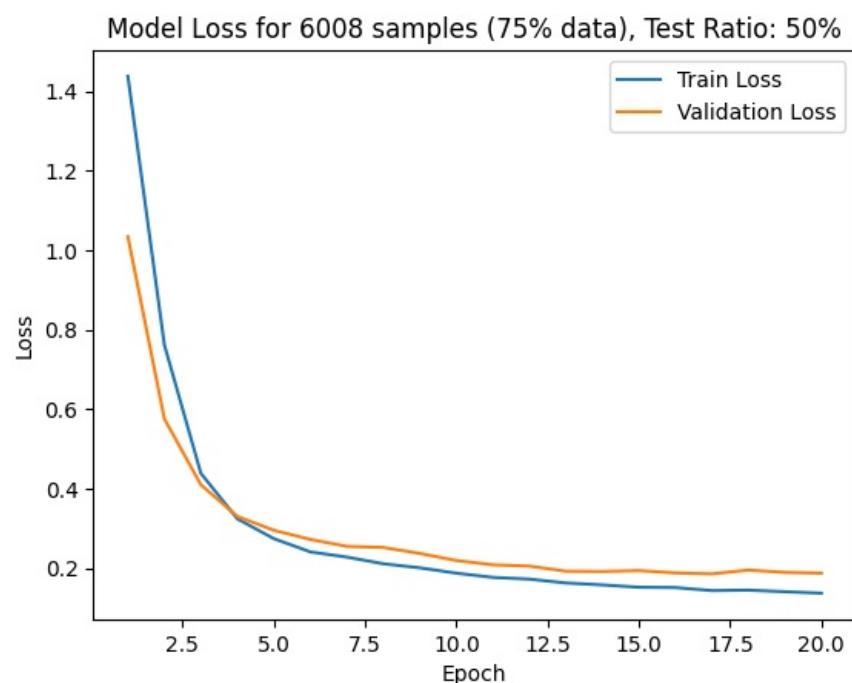


Model Accuracy for 6008 samples (75% data), Test Ratio: 50%

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



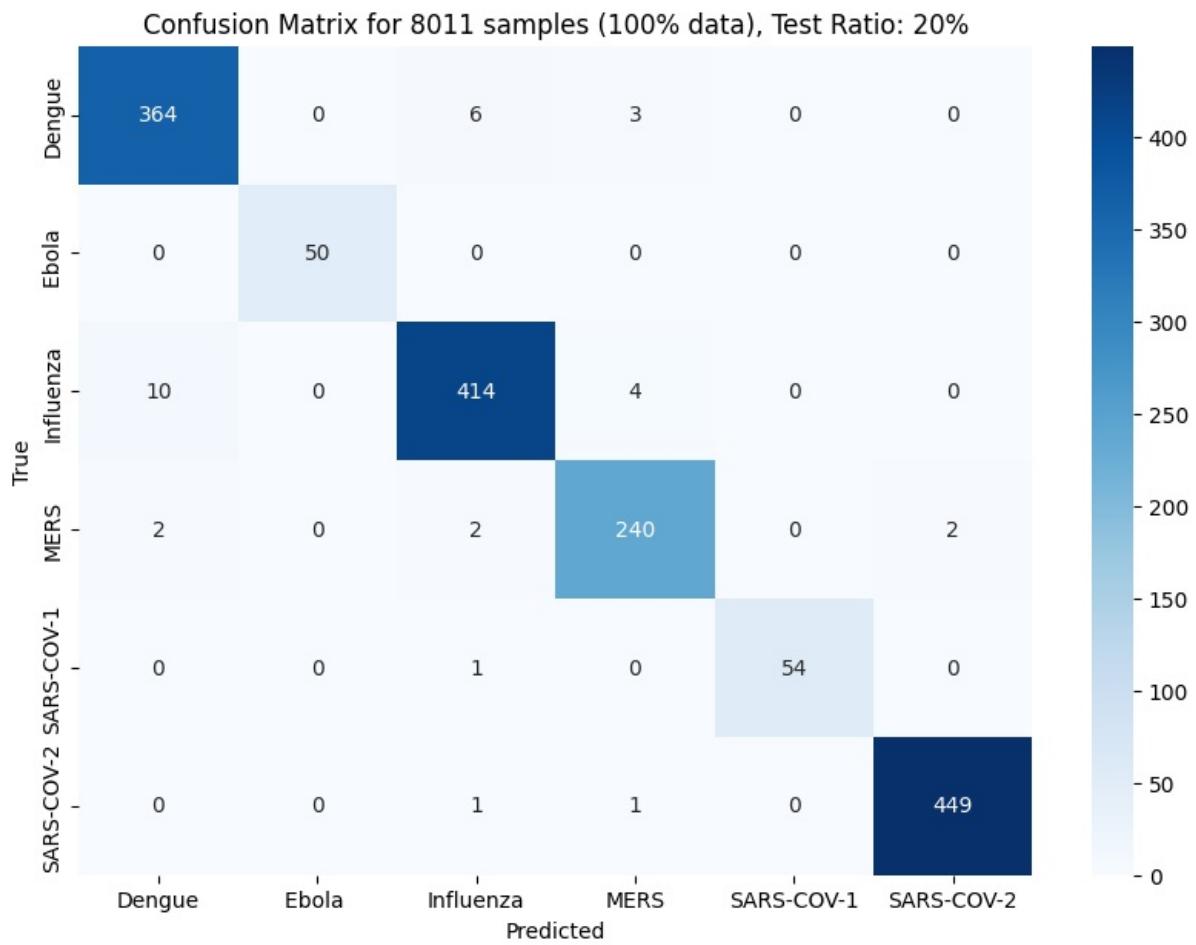
### Model Loss for 6008 samples (75% data), Test Ratio: 50%



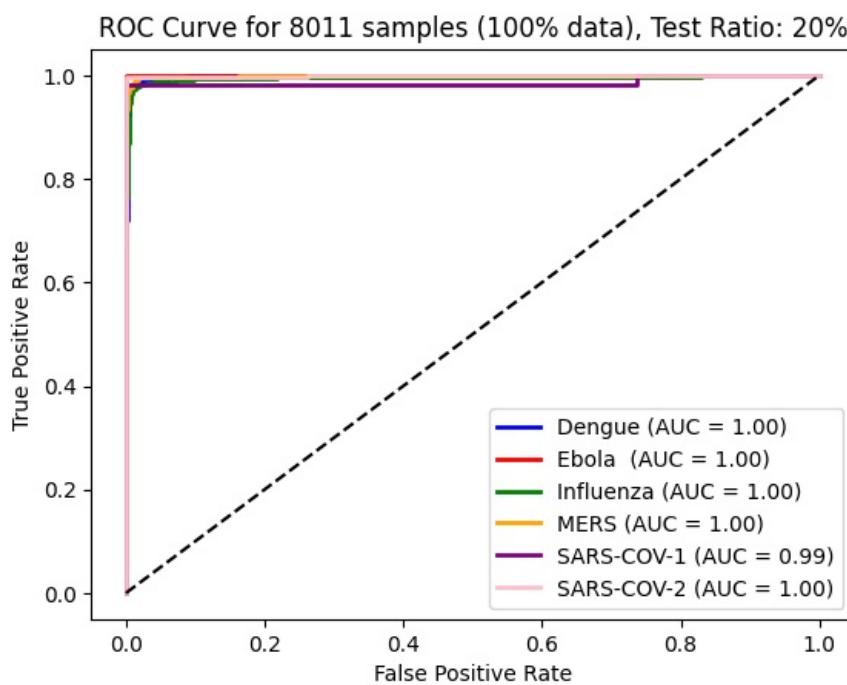
### Data Size: 8011 samples, Test Ratio: 0.2

- Accuracy: 0.9800
- Precision: 0.9846
- Recall: 0.9827
- F1\_score: 0.9836

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

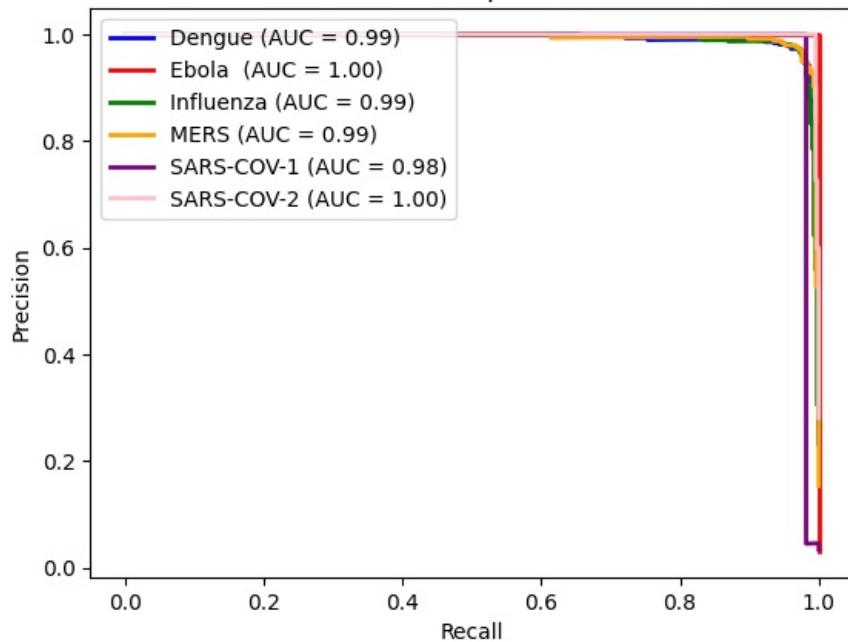


ROC Curve for 8011 samples (100% data), Test Ratio: 20%

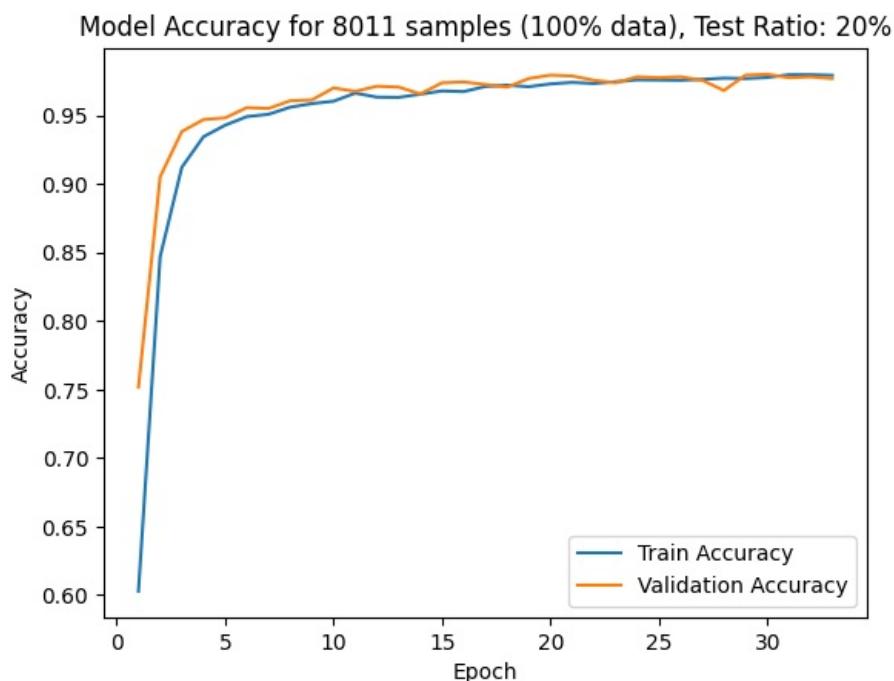


Precision-Recall Curve for 8011 samples (100% data), Test Ratio: 20%

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

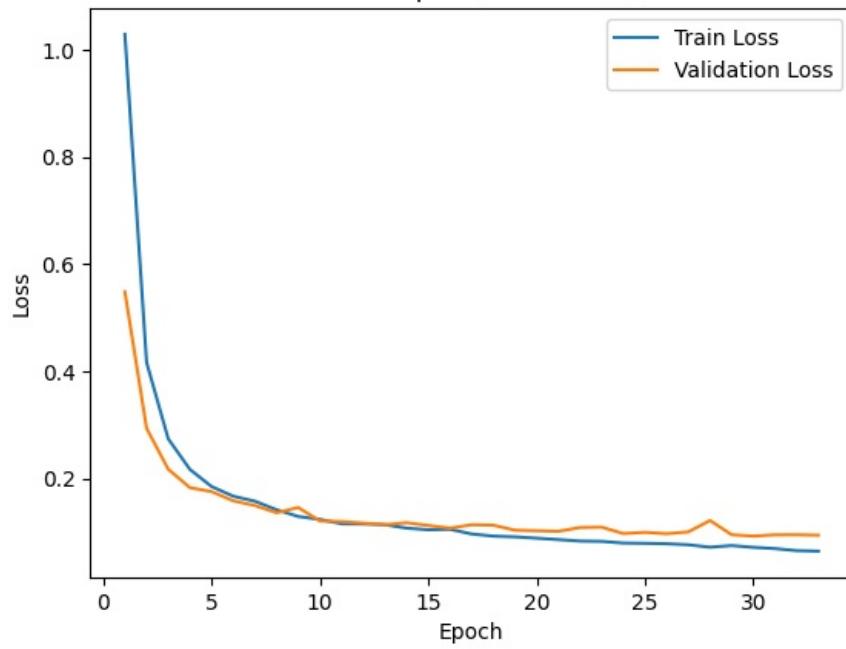


### Model Accuracy for 8011 samples (100% data), Test Ratio: 20%



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

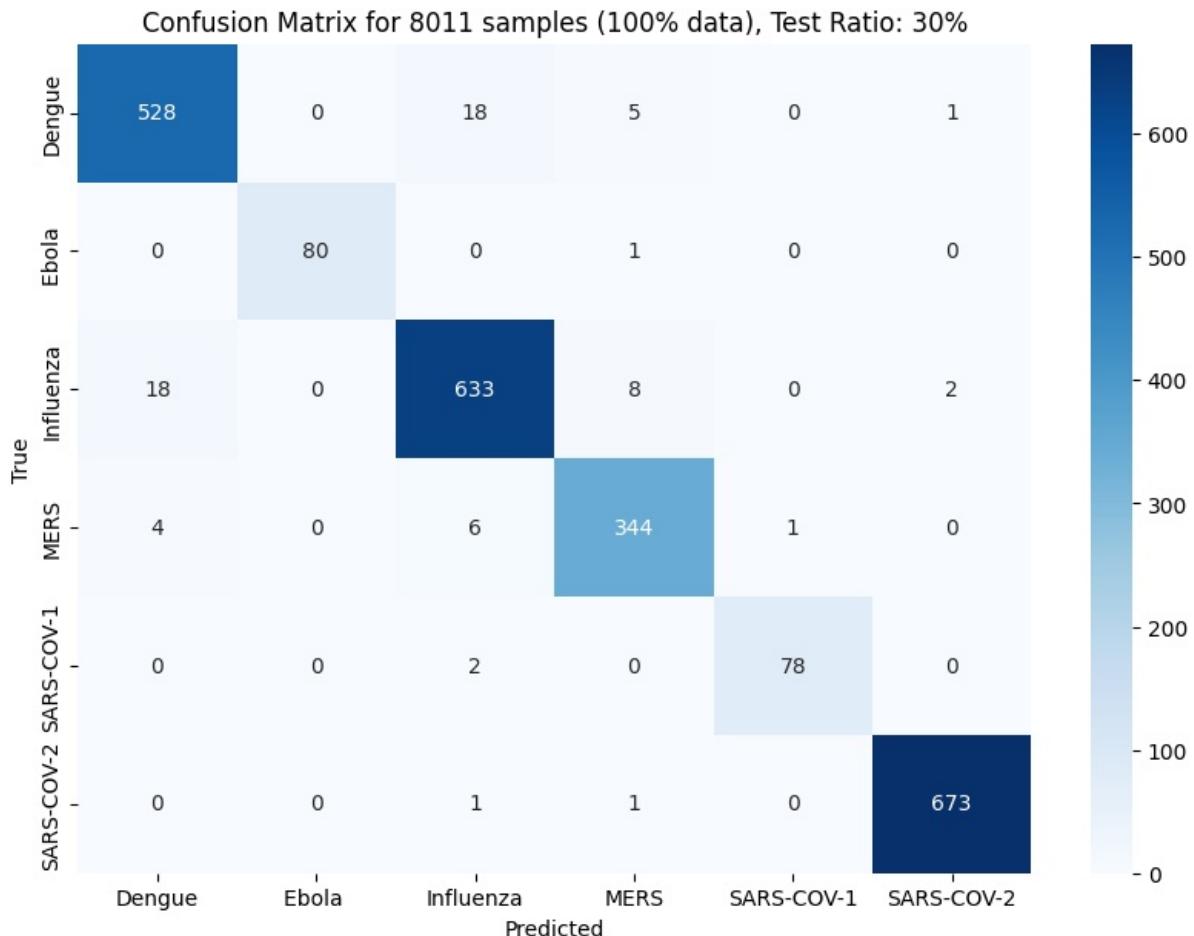
### Model Loss for 8011 samples (100% data), Test Ratio: 20%



**Data Size: 8011 samples, Test Ratio: 0.3**

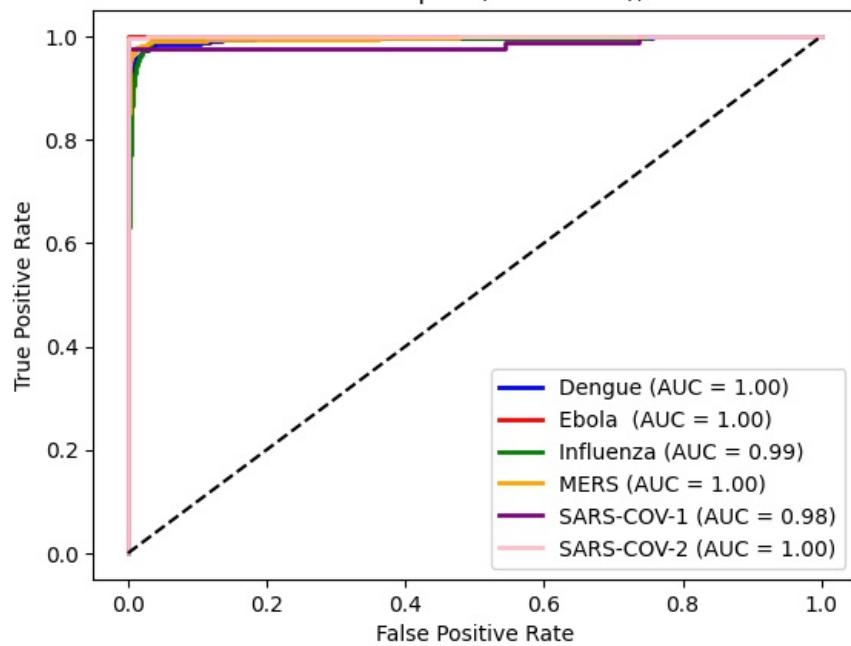
- Accuracy: 0.9717
- Precision: 0.9767
- Recall: 0.9738
- F1\_score: 0.9752

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

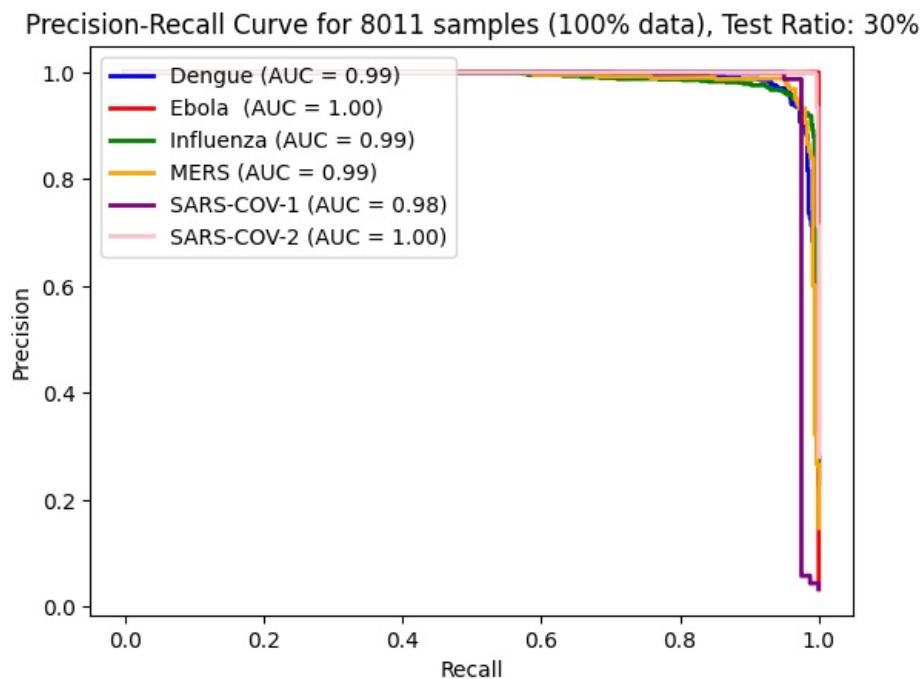


**ROC Curve for 8011 samples (100% data), Test Ratio: 30%**

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

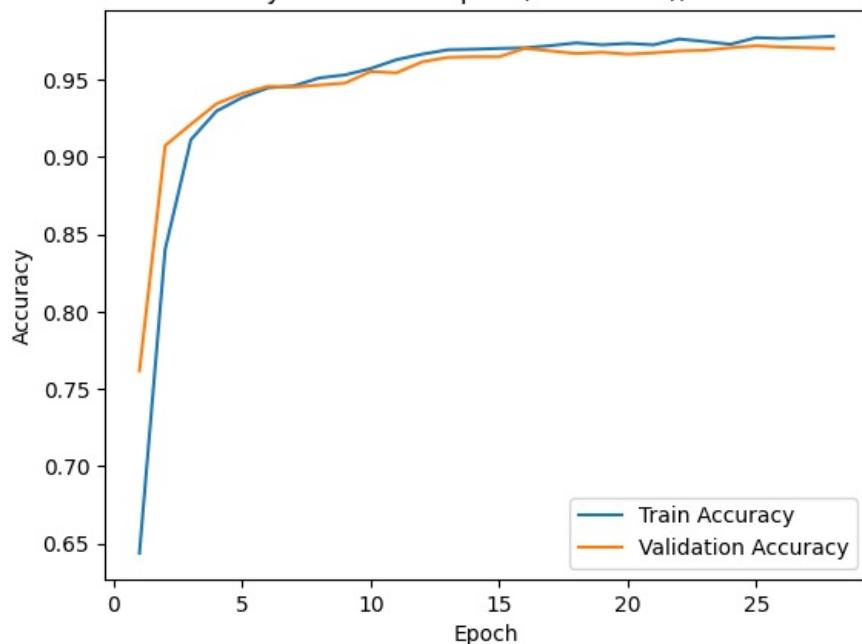


Precision-Recall Curve for 8011 samples (100% data), Test Ratio: 30%

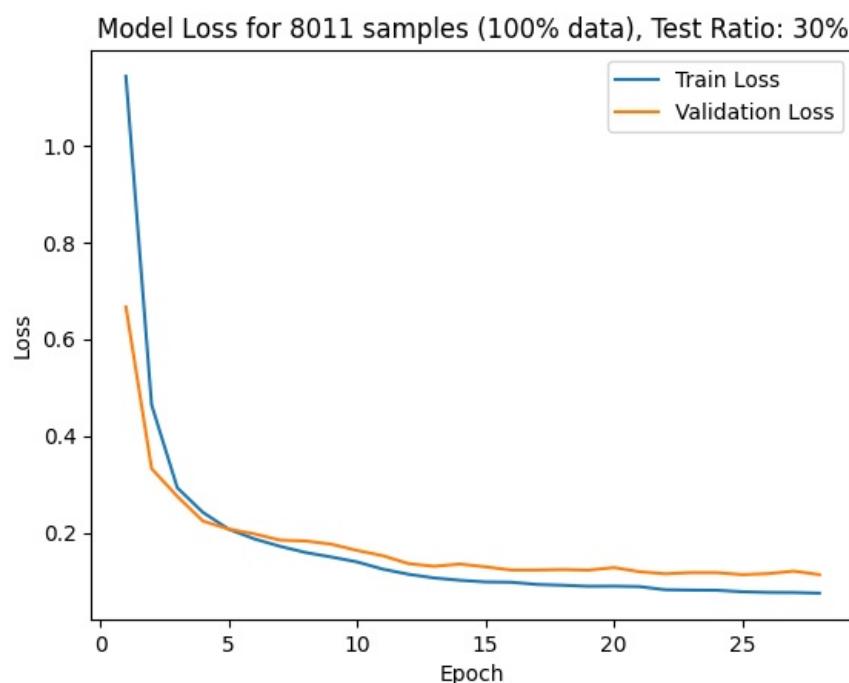


Model Accuracy for 8011 samples (100% data), Test Ratio: 30%

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



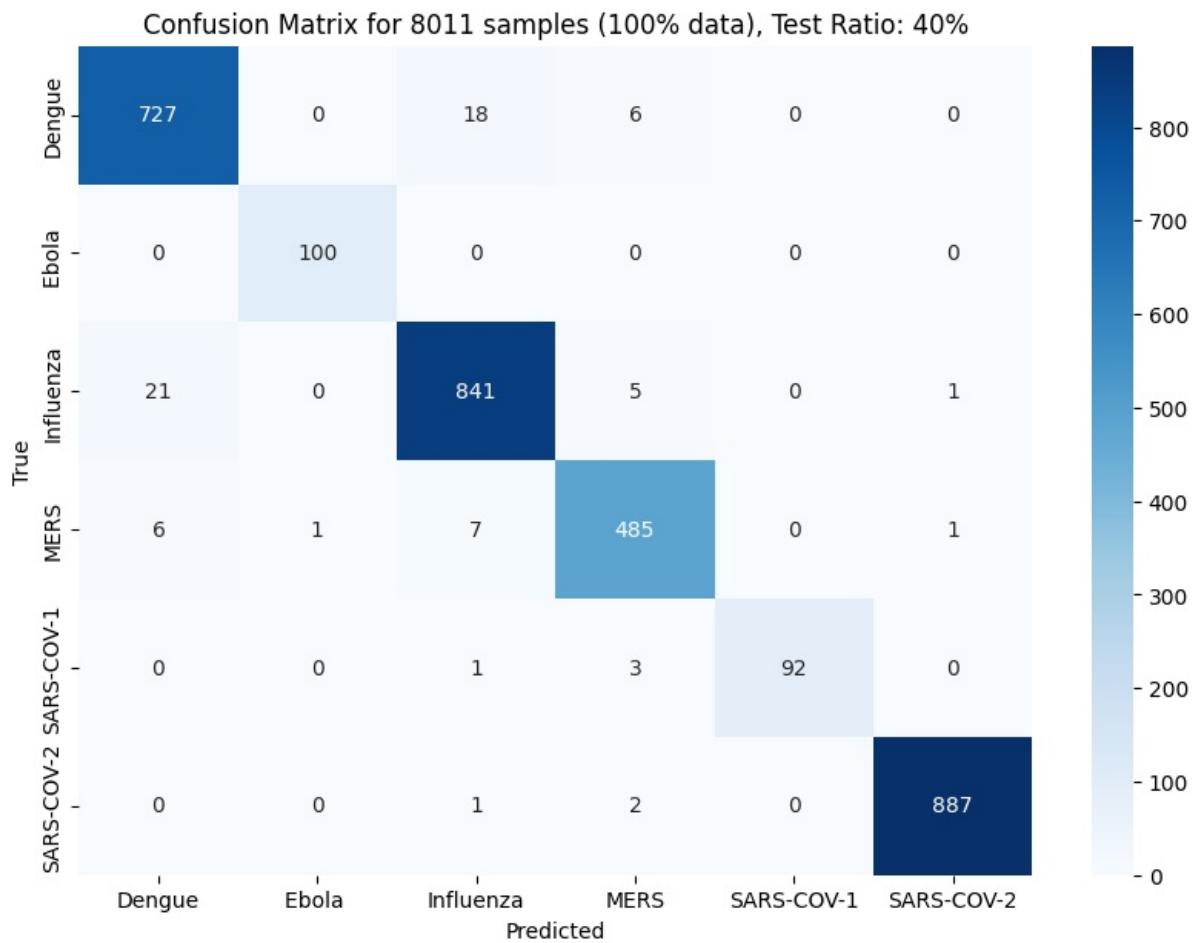
### Model Loss for 8011 samples (100% data), Test Ratio: 30%



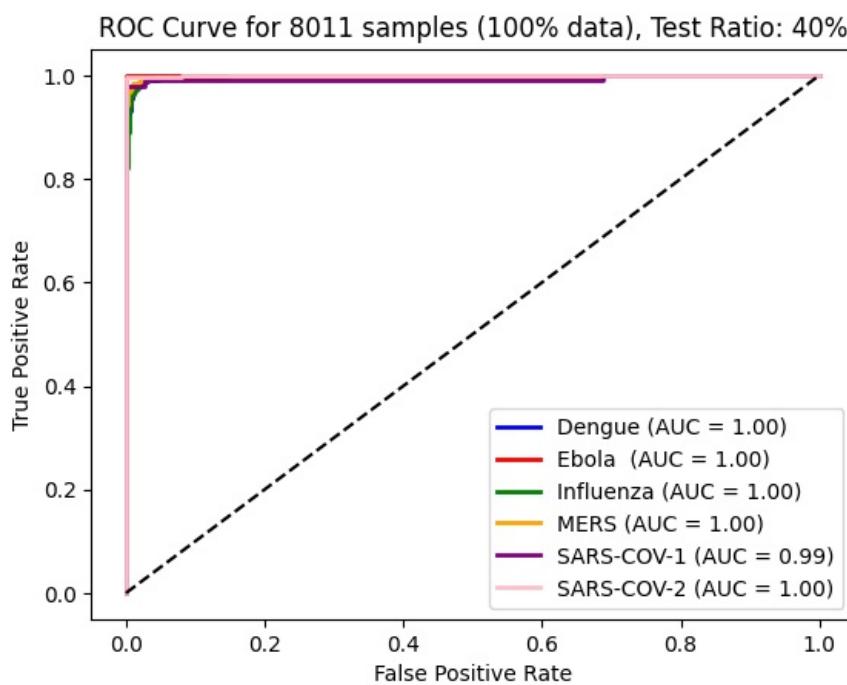
### Data Size: 8011 samples, Test Ratio: 0.4

- Accuracy: 0.9772
- Precision: 0.9815
- Recall: 0.9770
- F1\_score: 0.9792

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

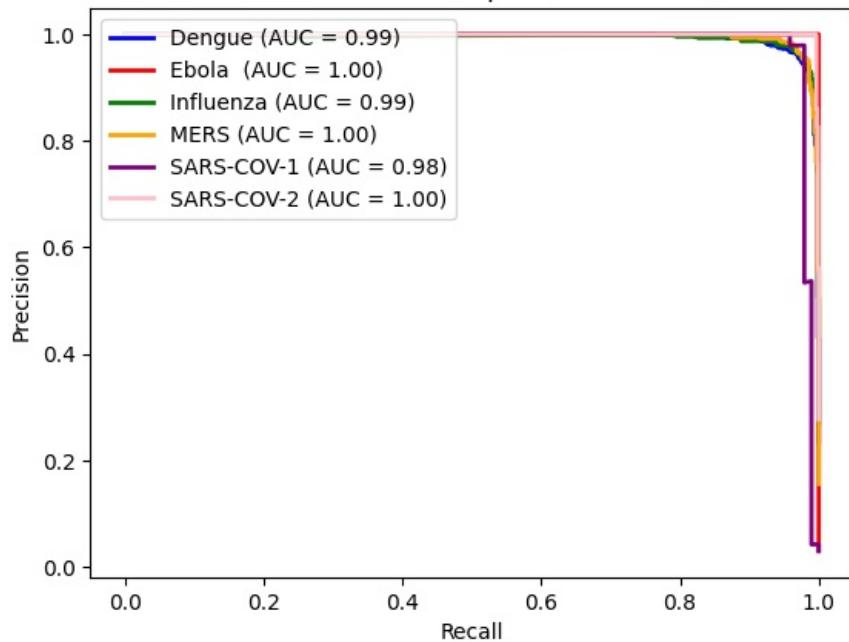


ROC Curve for 8011 samples (100% data), Test Ratio: 40%

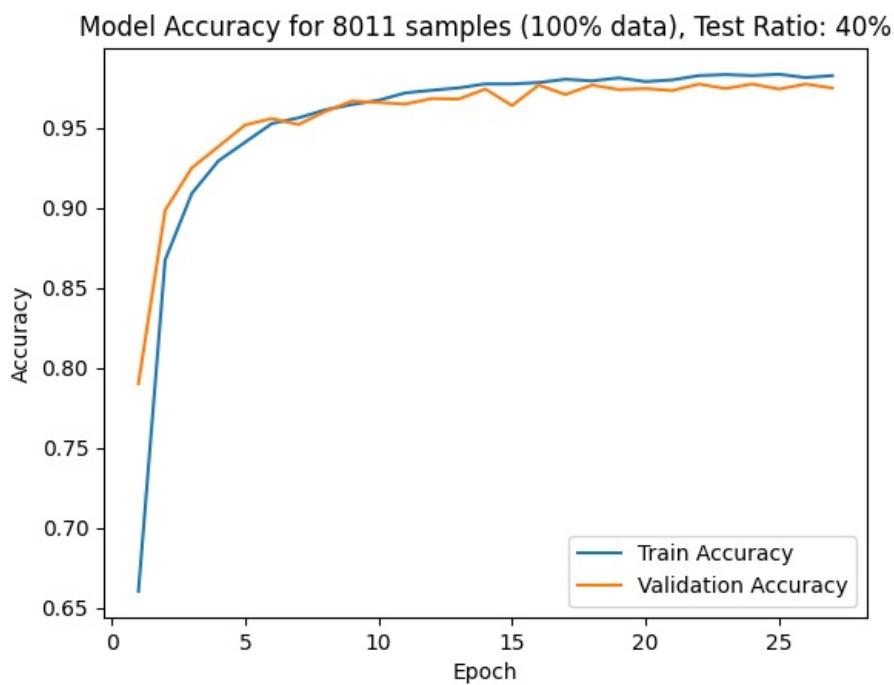


Precision-Recall Curve for 8011 samples (100% data), Test Ratio: 40%

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

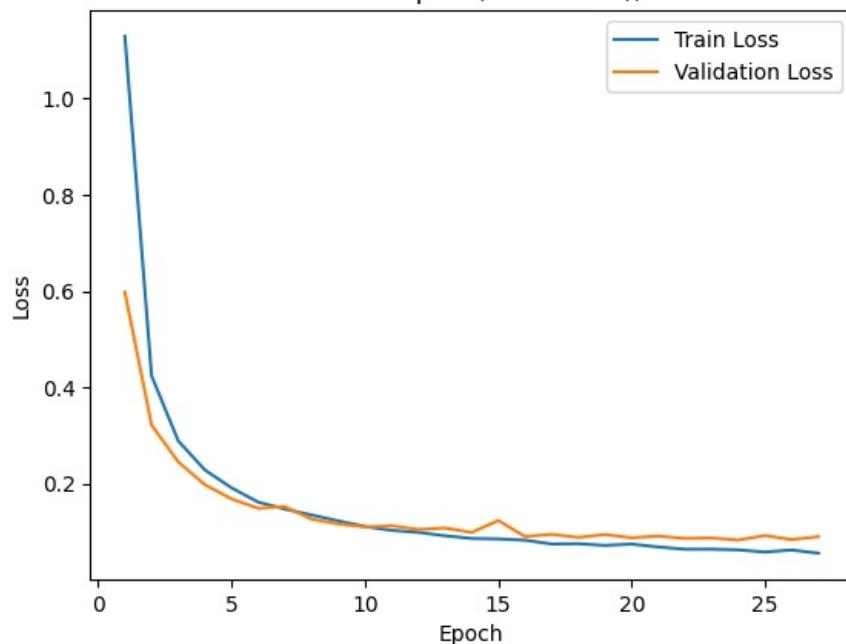


### Model Accuracy for 8011 samples (100% data), Test Ratio: 40%



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

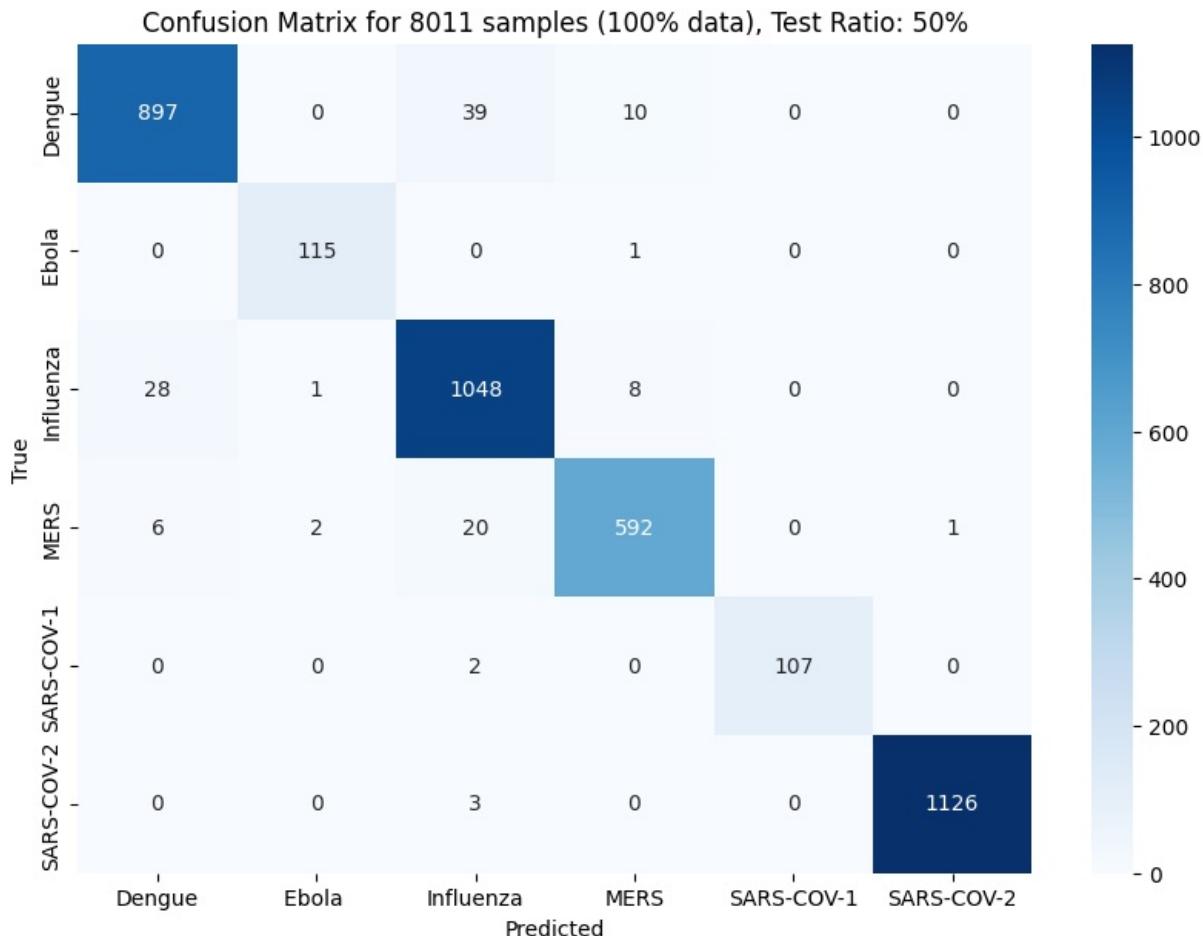
### Model Loss for 8011 samples (100% data), Test Ratio: 40%



**Data Size: 8011 samples, Test Ratio: 0.5**

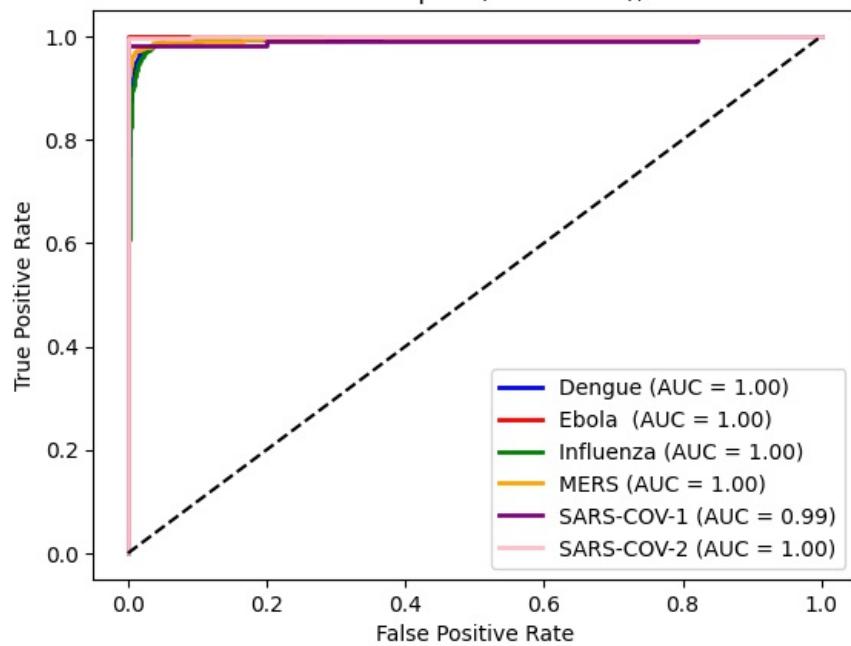
- Accuracy: 0.9698
- Precision: 0.9748
- Recall: 0.9730
- F1\_score: 0.9738

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

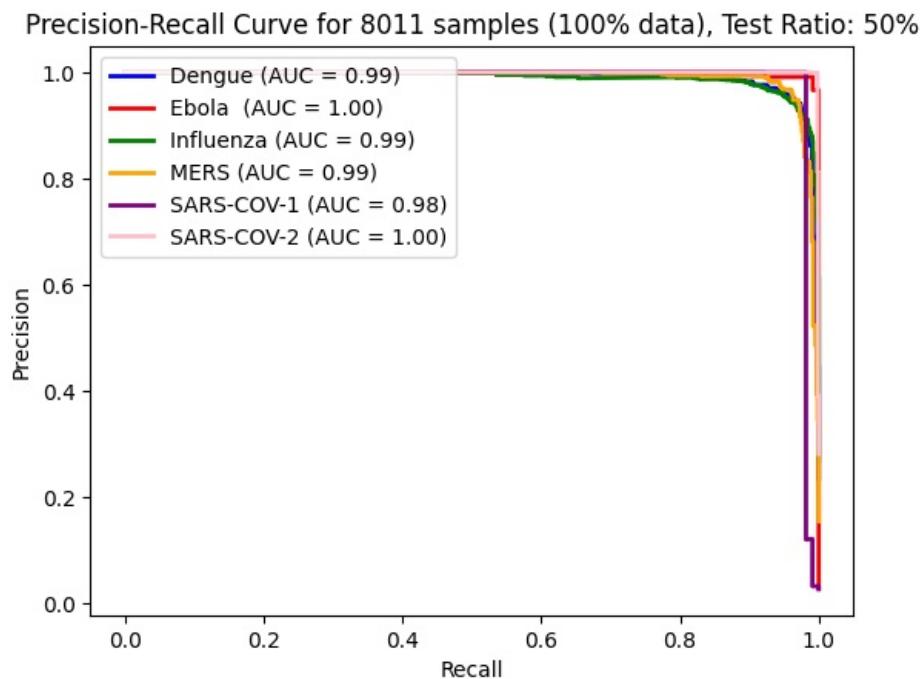


**ROC Curve for 8011 samples (100% data), Test Ratio: 50%**

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

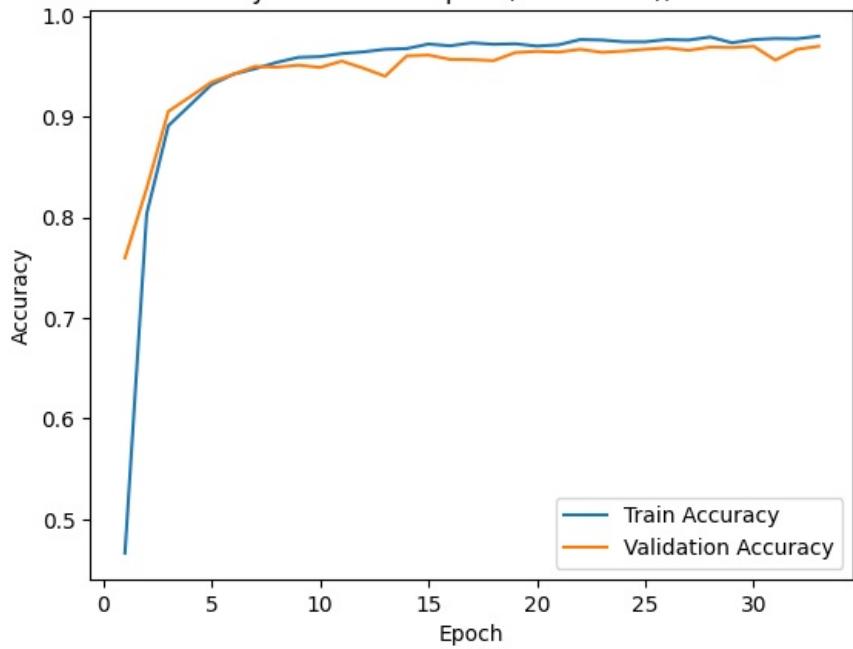


Precision-Recall Curve for 8011 samples (100% data), Test Ratio: 50%



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%

