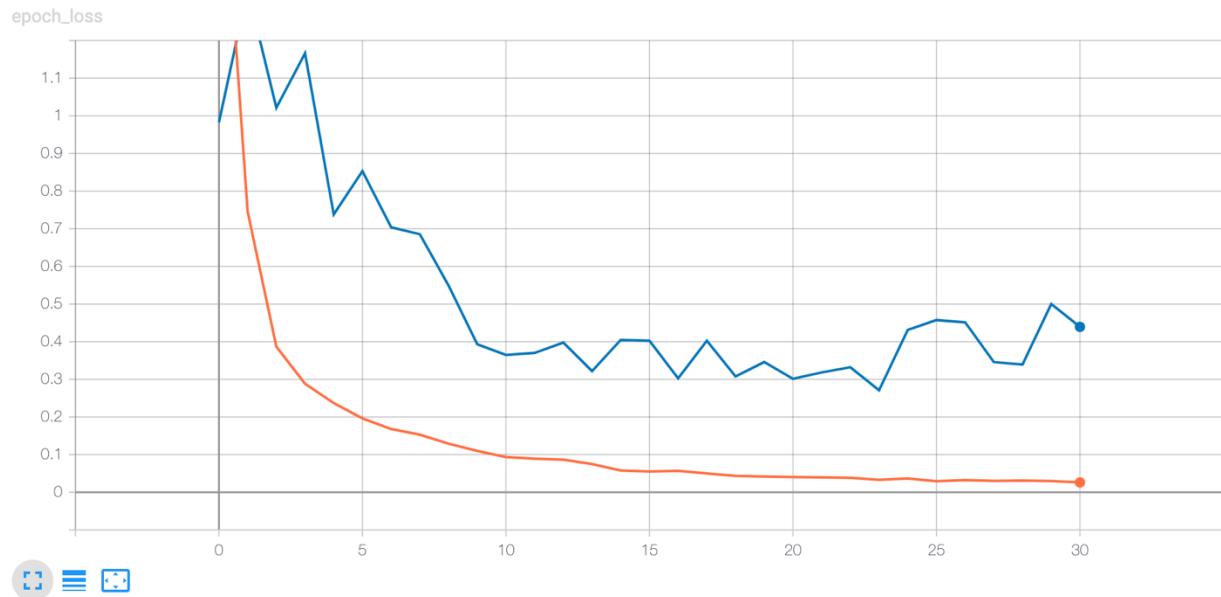
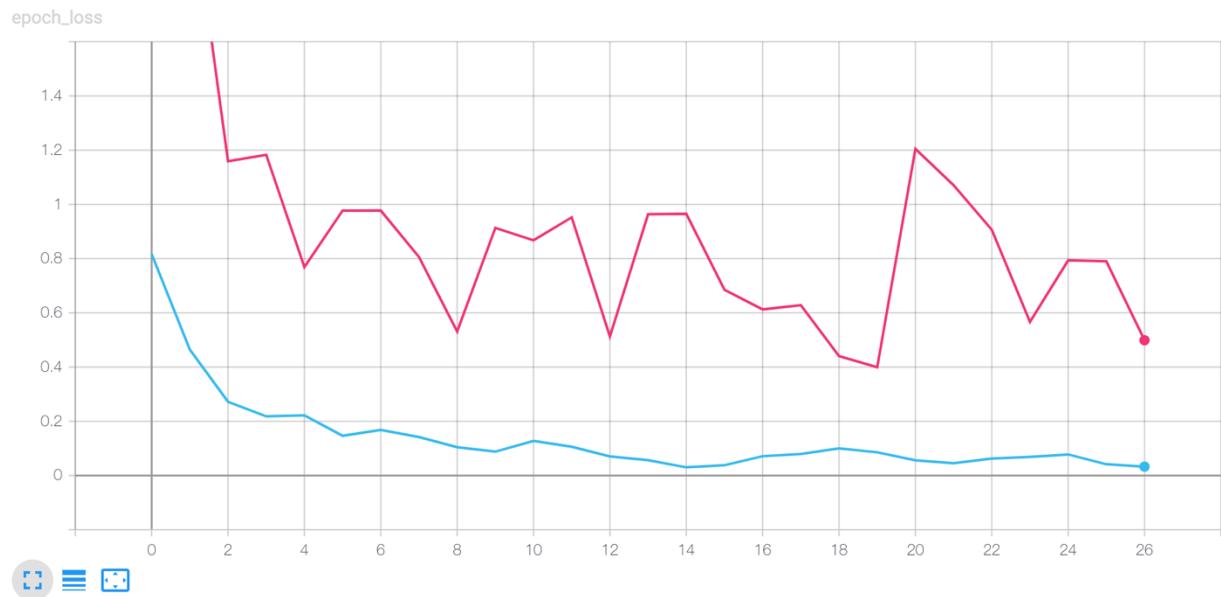


Applying model resnet101v2 on binary and multi-class classifiers

Training and validation (blue) loss vs. epoch for the binary classifier



Training (blue) and validation loss vs. epoch for the multi-class classifier



Confusion Matrices of binary and multi-class classifier's predictions on the test set

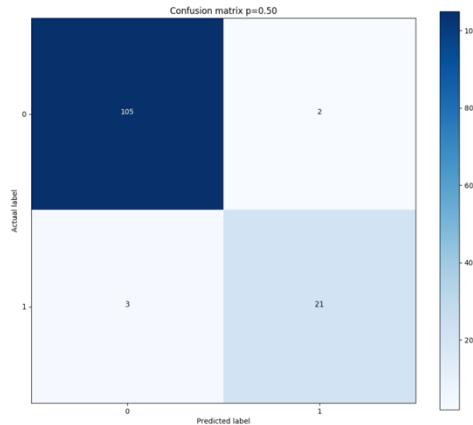
Confusion Matrix (Test Set)

weights-resnet101v2-binary/20200429-042105

tag: Confusion Matrix (Test Set)

step 0

Wed Apr 29 2020 12:47:01 GMT+0800 (Taipei Standard Time)



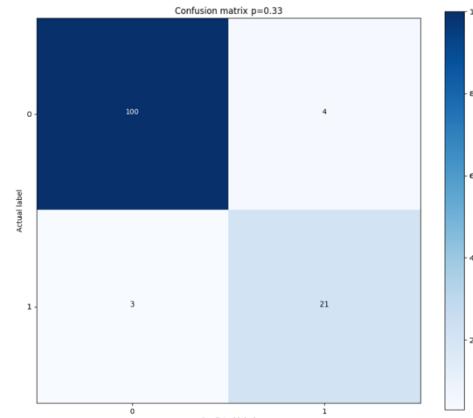
Confusion Matrix (Test Set)

weights-resnet101v2-multiclass/20200430-043205

tag: Confusion Matrix (Test Set)

step 0

Thu Apr 30 2020 12:53:01 GMT+0800 (Taipei Standard Time)



ROC curves for binary and multi-class classifier's test set predictions

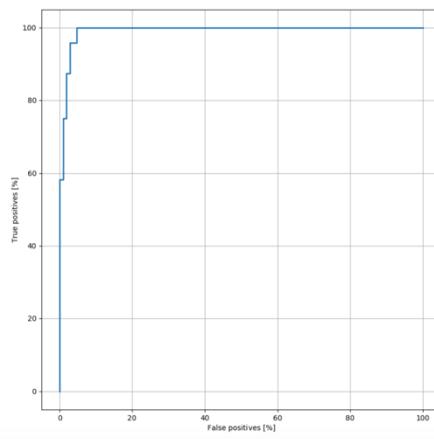
ROC Curve (Test Set)

weights-resnet101v2-binary/20200429-042105

tag: ROC Curve (Test Set)

step 0

Wed Apr 29 2020 12:47:01 GMT+0800 (Taipei Standard Time)



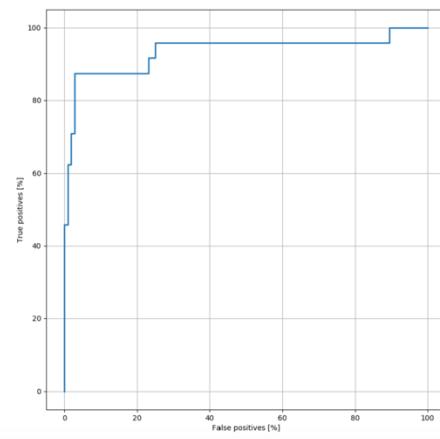
ROC Curve (Test Set)

weights-resnet101v2-multiclass/20200430-043205

tag: ROC Curve (Test Set)

step 0

Thu Apr 30 2020 12:53:01 GMT+0800 (Taipei Standard Time)



Binary classifier model's performance metrics on the test set

Test set metrics
tag: Test set metrics

weights-resnet101v2-binary/20200429-042105

Metric	Value
loss	0.08894714284688235
accuracy	0.96183205
precision	0.9130435
recall	0.875
auc	0.9949304
f1score	0.89361703

Multi-class classifier model's performance metrics on the test set

Test set metrics
tag: Test set metrics

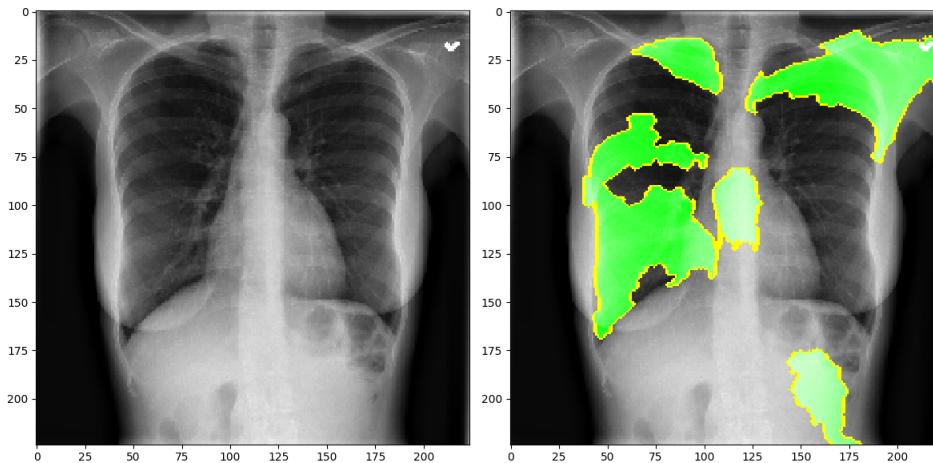
weights-resnet101v2-multiclass/20200430-043205

Metric	Value
loss	0.6097630113363266
accuracy	0.84375
precision	0.84
recall	0.875
auc	0.9441986
f1score	0.85714287

Binary classifier's results applying LIME on the test set

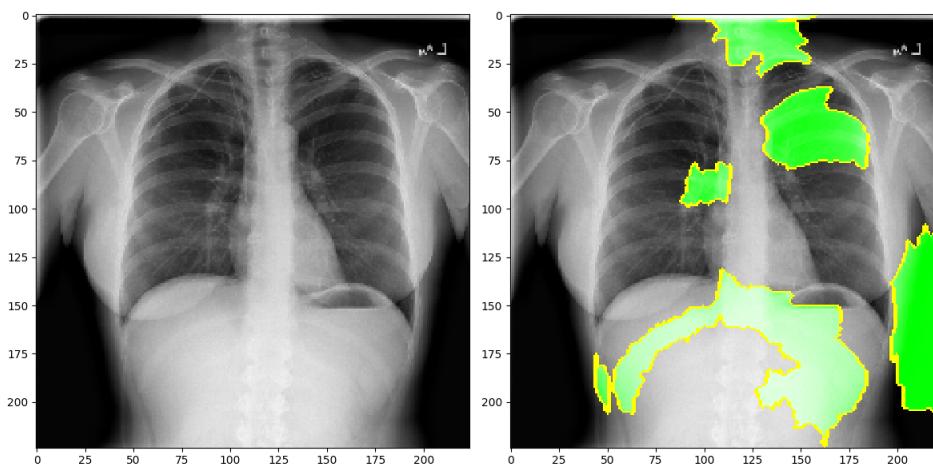
LIME Explanation for image rsna/0b352cce-b6f8-4130-adfe-38fcc180a952.jpg

Ground Truth Class: 0 (non-COVID-19)
Predicted Class: 0 (non-COVID-19)
Prediction probabilities: [0.96, 0.04]



LIME Explanation for image rsna/07045469-bbc4-42ca-a8b9-9c83ef77f704.jpg

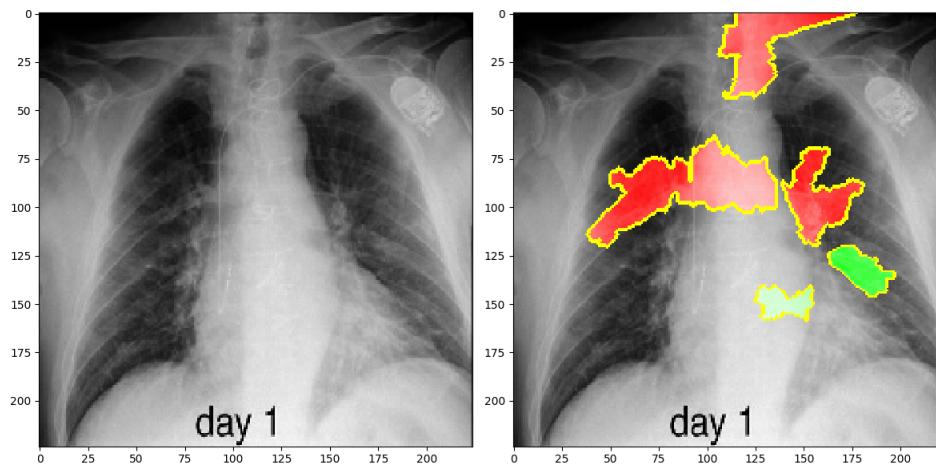
Ground Truth Class: 0 (non-COVID-19)
Predicted Class: 0 (non-COVID-19)
Prediction probabilities: [1.00, 0.00]



Binary classifier's results applying LIME on the test set

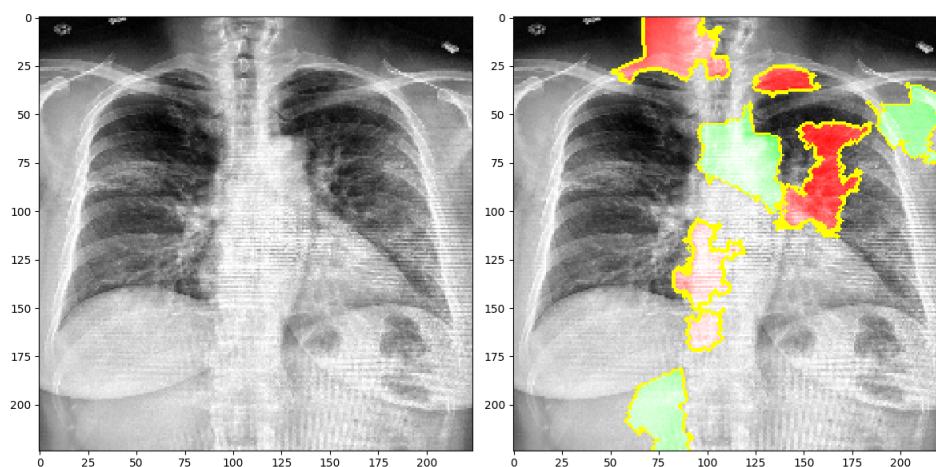
LIME Explanation for image covid-chestxray-dataset/images/extubation-1.jpg

Ground Truth Class: 1 (COVID-19)
Predicted Class: 1 (COVID-19)
Prediction probabilities: [0.00, '1.00']



LIME Explanation for image Figure1-COVID-chestxray-dataset/images/COVID-00006.jpg

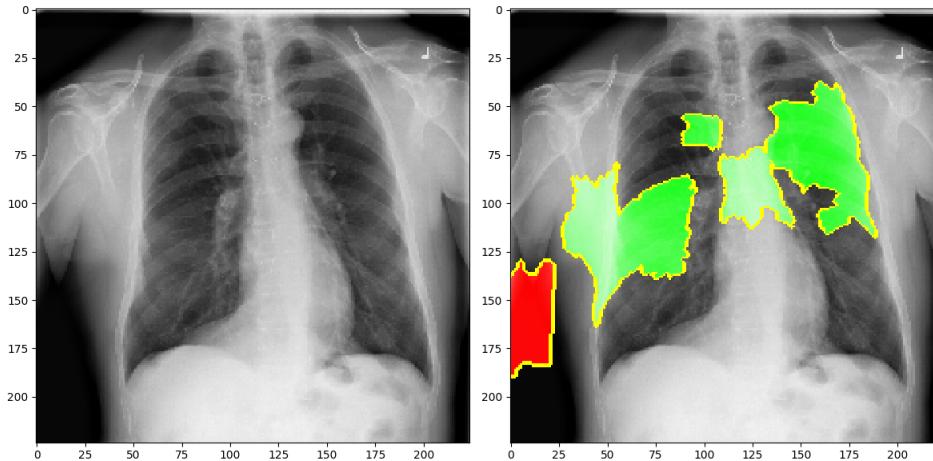
Ground Truth Class: 1 (COVID-19)
Predicted Class: 1 (COVID-19)
Prediction probabilities: [0.02, '0.98']



Multi-class classifier's results applying LIME on the test set

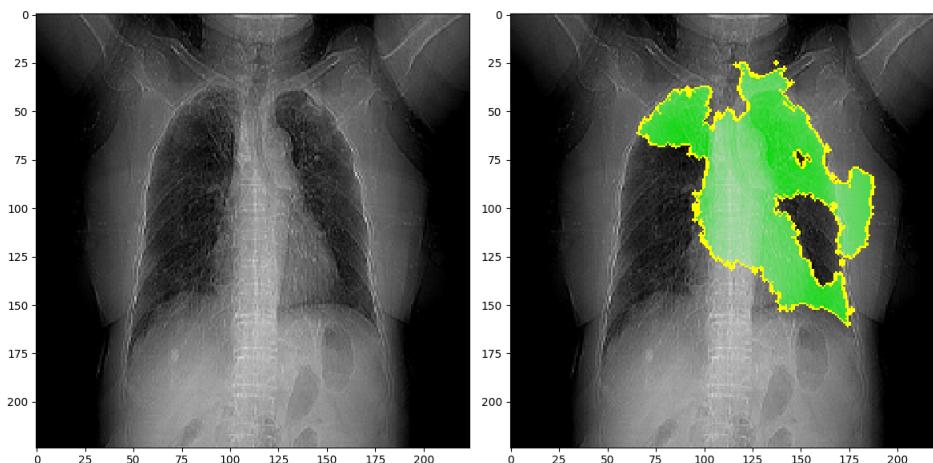
LIME Explanation for image rsna/078aecd3-abe5-4a09-9c2c-4b13f852bd41.jpg

Ground Truth Class: 0 (normal)
Predicted Class: 0 (normal)
Prediction probabilities: ['1.00', '0.00', '0.00']



LIME Explanation for image covid-chestxray-dataset/images/ciaa199.pdf-001-a.png

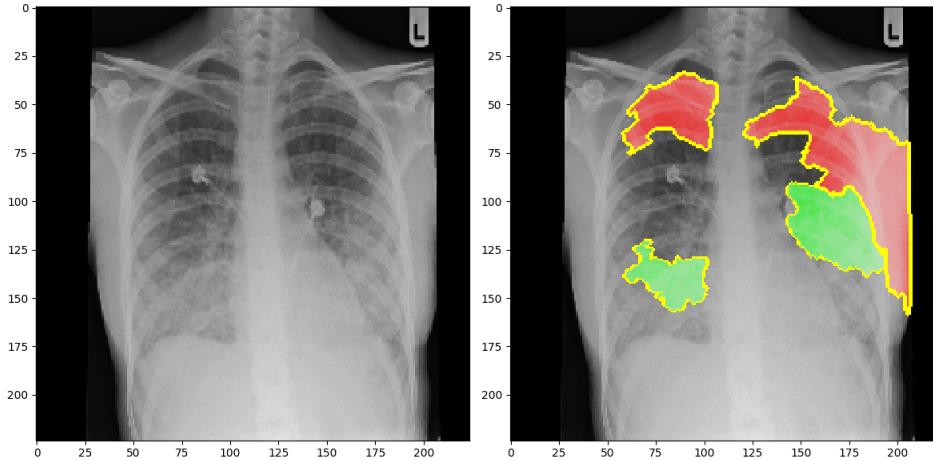
Ground Truth Class: 1 (COVID-19)
Predicted Class: 1 (COVID-19)
Prediction probabilities: ['0.00', '1.00', '0.00']



Multi-class classifier's results applying LIME on the test set

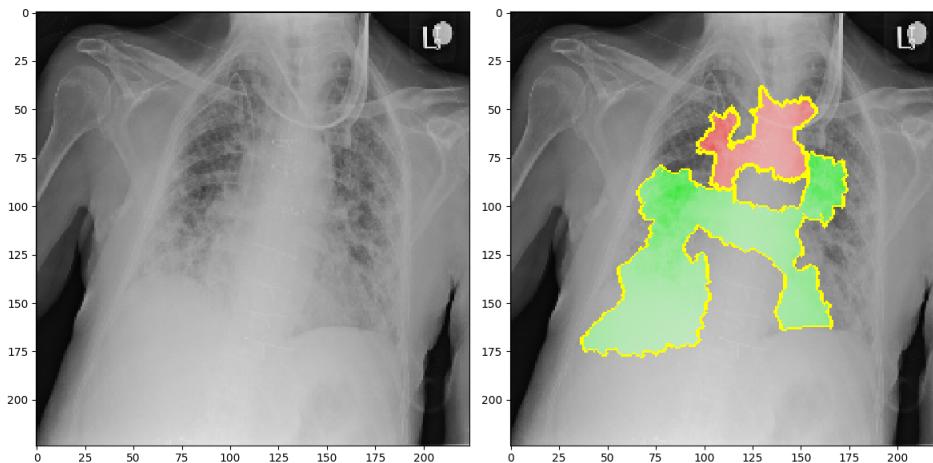
LIME Explanation for image rsna/00c0b293-48e7-4e16-ac76-9269ba535a62.jpg

Ground Truth Class: 2 (other_pneumonia)
Predicted Class: 2 (other_pneumonia)
Prediction probabilities: [0.00', '0.00', '1.00']

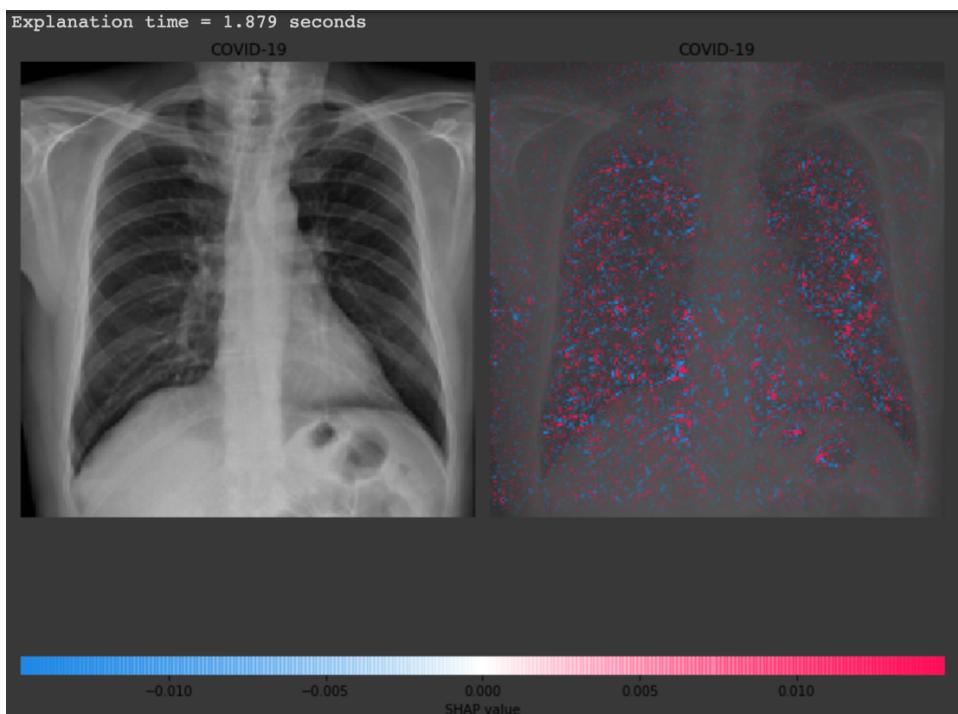
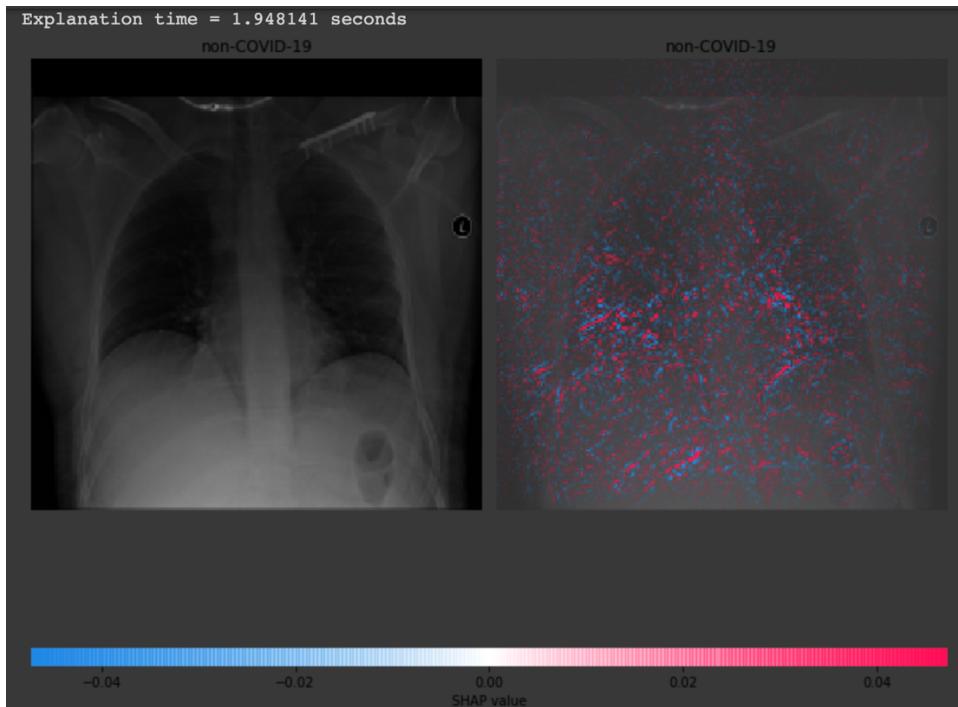


LIME Explanation for image rsna/05d3817a-5535-4e77-8dda-d4412e496c81.jpg

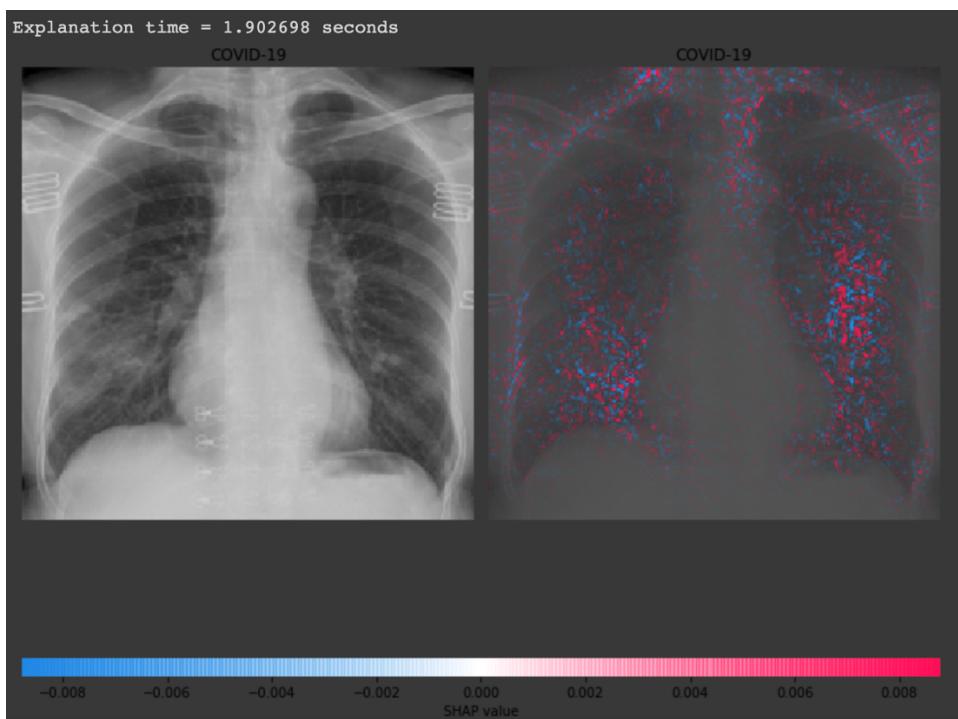
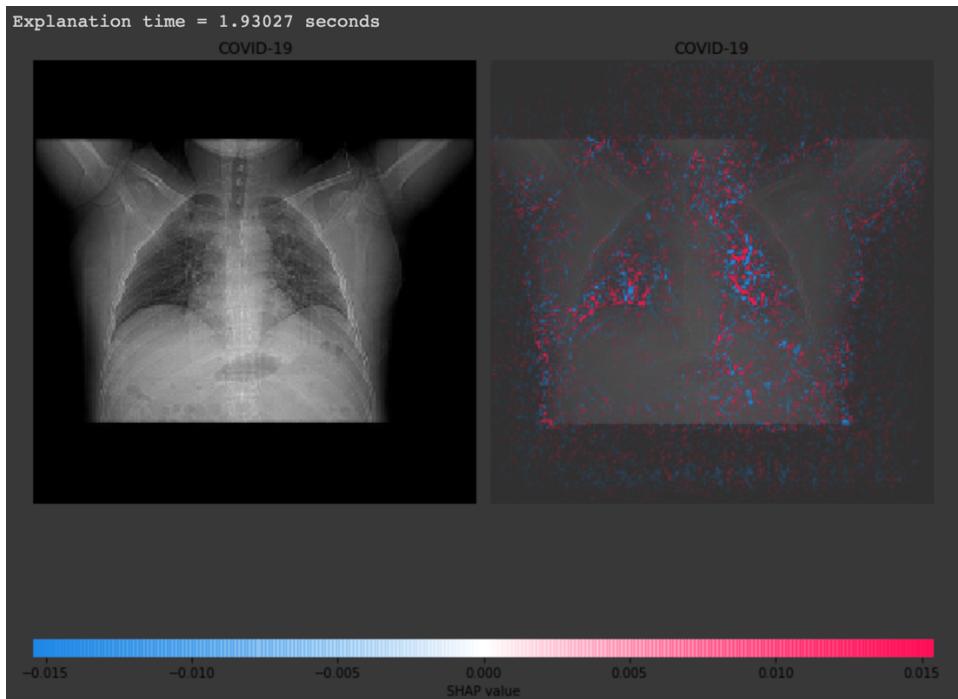
Ground Truth Class: 2 (other_pneumonia)
Predicted Class: 2 (other_pneumonia)
Prediction probabilities: [0.00', '0.00', '1.00']



Binary classifier's results applying SHAP on the test set



Multi-class classifier's results applying SHAP on the test set



Multi-class classifier's results applying SHAP on the test set

