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Layer (type) Output Shape Param #

=================================================================

input\_8 (InputLayer) [(None, 224, 224, 3)] 0

block1\_conv1 (Conv2D) (None, 224, 224, 64) 1792

block1\_conv2 (Conv2D) (None, 224, 224, 64) 36928

block1\_pool (MaxPooling2D) (None, 112, 112, 64) 0

block2\_conv1 (Conv2D) (None, 112, 112, 128) 73856

block2\_conv2 (Conv2D) (None, 112, 112, 128) 147584

block2\_pool (MaxPooling2D) (None, 56, 56, 128) 0

block3\_conv1 (Conv2D) (None, 56, 56, 256) 295168

block3\_conv2 (Conv2D) (None, 56, 56, 256) 590080

block3\_conv3 (Conv2D) (None, 56, 56, 256) 590080

block3\_conv4 (Conv2D) (None, 56, 56, 256) 590080

block3\_pool (MaxPooling2D) (None, 28, 28, 256) 0

block4\_conv1 (Conv2D) (None, 28, 28, 512) 1180160

block4\_conv2 (Conv2D) (None, 28, 28, 512) 2359808

block4\_conv3 (Conv2D) (None, 28, 28, 512) 2359808

block4\_conv4 (Conv2D) (None, 28, 28, 512) 2359808

block4\_pool (MaxPooling2D) (None, 14, 14, 512) 0

block5\_conv1 (Conv2D) (None, 14, 14, 512) 2359808

block5\_conv2 (Conv2D) (None, 14, 14, 512) 2359808

block5\_conv3 (Conv2D) (None, 14, 14, 512) 2359808

block5\_conv4 (Conv2D) (None, 14, 14, 512) 2359808

block5\_pool (MaxPooling2D) (None, 7, 7, 512) 0

flatten\_3 (Flatten) (None, 25088) 0

dense\_3 (Dense) (None, 1) 25089

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Total params: 20,049,473

Trainable params: 25,089

Non-trainable params: 20,024,384

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Epoch 1/100

17/17 [==============================] - 19s 833ms/step - loss: 0.8593 - accuracy: 0.5791 - val\_loss: 0.6102 - val\_accuracy: 0.7015 - lr: 0.0010

Epoch 2/100

17/17 [==============================] - 8s 472ms/step - loss: 0.4436 - accuracy: 0.7896 - val\_loss: 0.4435 - val\_accuracy: 0.7836 - lr: 0.0010

Epoch 3/100

17/17 [==============================] - 8s 467ms/step - loss: 0.3421 - accuracy: 0.8715 - val\_loss: 0.4056 - val\_accuracy: 0.8507 - lr: 0.0010

Epoch 4/100

17/17 [==============================] - 8s 470ms/step - loss: 0.2894 - accuracy: 0.8939 - val\_loss: 0.3879 - val\_accuracy: 0.8433 - lr: 0.0010

Epoch 5/100

17/17 [==============================] - 8s 462ms/step - loss: 0.2357 - accuracy: 0.9236 - val\_loss: 0.4105 - val\_accuracy: 0.8209 - lr: 0.0010

Epoch 6/100

17/17 [==============================] - 8s 468ms/step - loss: 0.1999 - accuracy: 0.9460 - val\_loss: 0.3510 - val\_accuracy: 0.8507 - lr: 0.0010

Epoch 7/100

17/17 [==============================] - 8s 471ms/step - loss: 0.1761 - accuracy: 0.9609 - val\_loss: 0.3434 - val\_accuracy: 0.8582 - lr: 0.0010

Epoch 8/100

17/17 [==============================] - 8s 467ms/step - loss: 0.1561 - accuracy: 0.9702 - val\_loss: 0.3451 - val\_accuracy: 0.8507 - lr: 0.0010

Epoch 9/100

17/17 [==============================] - 8s 467ms/step - loss: 0.1301 - accuracy: 0.9870 - val\_loss: 0.3281 - val\_accuracy: 0.8582 - lr: 0.0010

Epoch 10/100

17/17 [==============================] - 8s 467ms/step - loss: 0.1156 - accuracy: 0.9851 - val\_loss: 0.3276 - val\_accuracy: 0.8657 - lr: 0.0010

Epoch 11/100

17/17 [==============================] - 8s 495ms/step - loss: 0.1086 - accuracy: 0.9907 - val\_loss: 0.3497 - val\_accuracy: 0.8507 - lr: 0.0010

Epoch 12/100

17/17 [==============================] - 8s 466ms/step - loss: 0.1099 - accuracy: 0.9851 - val\_loss: 0.3288 - val\_accuracy: 0.8731 - lr: 0.0010

Epoch 13/100

17/17 [==============================] - 8s 465ms/step - loss: 0.0955 - accuracy: 0.9814 - val\_loss: 0.3143 - val\_accuracy: 0.8657 - lr: 0.0010

Epoch 14/100

17/17 [==============================] - 8s 462ms/step - loss: 0.0740 - accuracy: 1.0000 - val\_loss: 0.3210 - val\_accuracy: 0.8582 - lr: 0.0010

Epoch 15/100

17/17 [==============================] - 8s 461ms/step - loss: 0.0674 - accuracy: 1.0000 - val\_loss: 0.3167 - val\_accuracy: 0.8582 - lr: 0.0010

Epoch 16/100

17/17 [==============================] - 8s 461ms/step - loss: 0.0630 - accuracy: 1.0000 - val\_loss: 0.3227 - val\_accuracy: 0.8582 - lr: 0.0010

Epoch 17/100

17/17 [==============================] - 9s 533ms/step - loss: 0.0572 - accuracy: 1.0000 - val\_loss: 0.3194 - val\_accuracy: 0.8507 - lr: 1.0000e-04

Epoch 18/100

17/17 [==============================] - 8s 469ms/step - loss: 0.0562 - accuracy: 1.0000 - val\_loss: 0.3202 - val\_accuracy: 0.8582 - lr: 1.0000e-04

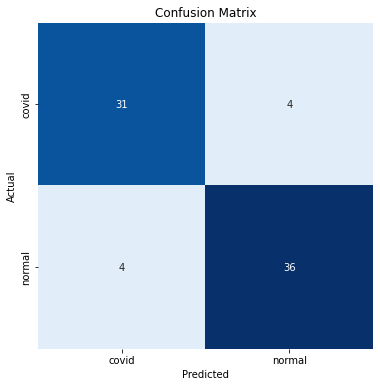
INFO:tensorflow:Assets written to: /content/drive/MyDrive/CTvgg19Split0.9noAug/assets

Test Loss: 0.23611

Test Accuracy: 89.33%

/usr/local/lib/python3.7/dist-packages/ipykernel\_launcher.py:123: DeprecationWarning: `np.int` is a deprecated alias for the builtin `int`. To silence this warning, use `int` by itself. Doing this will not modify any behavior and is safe. When replacing `np.int`, you may wish to use e.g. `np.int64` or `np.int32` to specify the precision. If you wish to review your current use, check the release note link for additional information.

Deprecated in NumPy 1.20; for more details and guidance: <https://numpy.org/devdocs/release/1.20.0-notes.html#deprecations>



Classification Report:

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precision recall f1-score support

covid 0.89 0.89 0.89 35

normal 0.90 0.90 0.90 40

accuracy 0.89 75

macro avg 0.89 0.89 0.89 75

weighted avg 0.89 0.89 0.89 75

