Found 316 validated image filenames belonging to 2 classes.

Found 78 validated image filenames belonging to 2 classes.

Found 169 validated image filenames belonging to 2 classes.

Epoch 1/100

10/10 [==============================] - 54s 4s/step - loss: 2.5911 - accuracy: 0.6013 - val\_loss: 0.6307 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 2/100

10/10 [==============================] - 12s 1s/step - loss: 0.6030 - accuracy: 0.7342 - val\_loss: 0.6219 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 3/100

10/10 [==============================] - 11s 1s/step - loss: 0.5599 - accuracy: 0.7342 - val\_loss: 0.6180 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 4/100

10/10 [==============================] - 11s 1s/step - loss: 0.5526 - accuracy: 0.7342 - val\_loss: 0.6069 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 5/100

10/10 [==============================] - 11s 1s/step - loss: 0.5492 - accuracy: 0.7342 - val\_loss: 0.5835 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 6/100

10/10 [==============================] - 12s 1s/step - loss: 0.5330 - accuracy: 0.7342 - val\_loss: 0.5563 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 7/100

10/10 [==============================] - 12s 1s/step - loss: 0.5190 - accuracy: 0.7342 - val\_loss: 0.5725 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 8/100

10/10 [==============================] - 11s 1s/step - loss: 0.5085 - accuracy: 0.7342 - val\_loss: 0.5581 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 9/100

10/10 [==============================] - 11s 1s/step - loss: 0.4958 - accuracy: 0.7373 - val\_loss: 0.5355 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 10/100

10/10 [==============================] - 11s 1s/step - loss: 0.4991 - accuracy: 0.7405 - val\_loss: 0.5544 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 11/100

10/10 [==============================] - 12s 1s/step - loss: 0.5224 - accuracy: 0.7373 - val\_loss: 0.5297 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 12/100

10/10 [==============================] - 12s 1s/step - loss: 0.4924 - accuracy: 0.7373 - val\_loss: 0.5130 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 13/100

10/10 [==============================] - 12s 1s/step - loss: 0.4915 - accuracy: 0.7532 - val\_loss: 0.5271 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 14/100

10/10 [==============================] - 11s 1s/step - loss: 0.4992 - accuracy: 0.7563 - val\_loss: 0.5128 - val\_accuracy: 0.7179 - lr: 0.0010

Epoch 15/100

10/10 [==============================] - 11s 1s/step - loss: 0.4817 - accuracy: 0.7627 - val\_loss: 0.5104 - val\_accuracy: 0.6795 - lr: 0.0010

Epoch 16/100

10/10 [==============================] - 11s 1s/step - loss: 0.4737 - accuracy: 0.7373 - val\_loss: 0.4895 - val\_accuracy: 0.7051 - lr: 0.0010

Epoch 17/100

10/10 [==============================] - 11s 1s/step - loss: 0.4482 - accuracy: 0.7911 - val\_loss: 0.4473 - val\_accuracy: 0.7692 - lr: 0.0010

Epoch 18/100

10/10 [==============================] - 11s 1s/step - loss: 0.4432 - accuracy: 0.7880 - val\_loss: 0.4548 - val\_accuracy: 0.7692 - lr: 0.0010

Epoch 19/100

10/10 [==============================] - 12s 1s/step - loss: 0.4074 - accuracy: 0.8038 - val\_loss: 0.4161 - val\_accuracy: 0.8333 - lr: 0.0010

Epoch 20/100

10/10 [==============================] - 12s 1s/step - loss: 0.4256 - accuracy: 0.7975 - val\_loss: 0.4466 - val\_accuracy: 0.8205 - lr: 0.0010

Epoch 21/100

10/10 [==============================] - 12s 1s/step - loss: 0.4145 - accuracy: 0.8070 - val\_loss: 0.4055 - val\_accuracy: 0.8846 - lr: 0.0010

Epoch 22/100

10/10 [==============================] - 11s 1s/step - loss: 0.3901 - accuracy: 0.8165 - val\_loss: 0.4088 - val\_accuracy: 0.7821 - lr: 0.0010

Epoch 23/100

10/10 [==============================] - 11s 1s/step - loss: 0.3500 - accuracy: 0.8576 - val\_loss: 0.3407 - val\_accuracy: 0.8974 - lr: 0.0010

Epoch 24/100

10/10 [==============================] - 12s 1s/step - loss: 0.3699 - accuracy: 0.8291 - val\_loss: 0.4191 - val\_accuracy: 0.7564 - lr: 0.0010

Epoch 25/100

10/10 [==============================] - 12s 1s/step - loss: 0.3831 - accuracy: 0.8259 - val\_loss: 0.4132 - val\_accuracy: 0.7821 - lr: 0.0010

Epoch 26/100

10/10 [==============================] - 11s 1s/step - loss: 0.3632 - accuracy: 0.8323 - val\_loss: 0.3918 - val\_accuracy: 0.8205 - lr: 0.0010

Epoch 27/100

10/10 [==============================] - 11s 1s/step - loss: 0.3685 - accuracy: 0.8196 - val\_loss: 0.3894 - val\_accuracy: 0.8333 - lr: 1.0000e-04

Epoch 28/100

10/10 [==============================] - 11s 1s/step - loss: 0.3193 - accuracy: 0.8639 - val\_loss: 0.3789 - val\_accuracy: 0.8333 - lr: 1.0000e-04

Model: "sequential"

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Layer (type) Output Shape Param #

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

conv2d (Conv2D) (None, 222, 222, 32) 896

max\_pooling2d (MaxPooling2D (None, 111, 111, 32) 0

)

dropout (Dropout) (None, 111, 111, 32) 0

conv2d\_1 (Conv2D) (None, 109, 109, 64) 18496

max\_pooling2d\_1 (MaxPooling (None, 54, 54, 64) 0

2D)

dropout\_1 (Dropout) (None, 54, 54, 64) 0

conv2d\_2 (Conv2D) (None, 52, 52, 128) 73856

max\_pooling2d\_2 (MaxPooling (None, 26, 26, 128) 0

2D)

dropout\_2 (Dropout) (None, 26, 26, 128) 0

flatten (Flatten) (None, 86528) 0

dense (Dense) (None, 128) 11075712

dense\_1 (Dense) (None, 1) 129

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

Total params: 11,169,089

Trainable params: 11,169,089

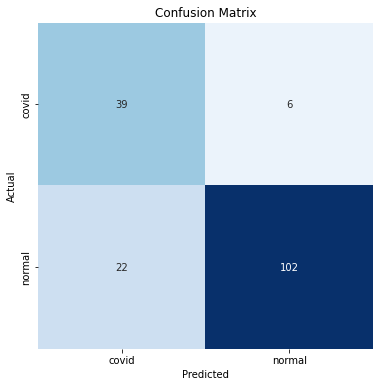
Non-trainable params: 0

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INFO:tensorflow:Assets written to: /content/drive/MyDrive/first model/assets

Test Loss: 0.39816

Test Accuracy: 83.43%



Classification Report:

----------------------

precision recall f1-score support

covid 0.64 0.87 0.74 45

normal 0.94 0.82 0.88 124

accuracy 0.83 169

macro avg 0.79 0.84 0.81 169

weighted avg 0.86 0.83 0.84 169

second’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’

Found 316 validated image filenames belonging to 2 classes.

Found 78 validated image filenames belonging to 2 classes.

Found 169 validated image filenames belonging to 2 classes.

Model: "sequential\_1"

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Layer (type) Output Shape Param #

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

conv2d\_3 (Conv2D) (None, 222, 222, 32) 896

conv2d\_4 (Conv2D) (None, 220, 220, 32) 9248

max\_pooling2d\_3 (MaxPooling (None, 110, 110, 32) 0

2D)

conv2d\_5 (Conv2D) (None, 108, 108, 64) 18496

conv2d\_6 (Conv2D) (None, 106, 106, 64) 36928

conv2d\_7 (Conv2D) (None, 104, 104, 64) 36928

max\_pooling2d\_4 (MaxPooling (None, 52, 52, 64) 0

2D)

conv2d\_8 (Conv2D) (None, 50, 50, 128) 73856

conv2d\_9 (Conv2D) (None, 50, 50, 25) 3225

flatten\_1 (Flatten) (None, 62500) 0

dense\_2 (Dense) (None, 1) 62501

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

Total params: 242,078

Trainable params: 242,078

Non-trainable params: 0

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Epoch 1/100

10/10 [==============================] - 17s 1s/step - loss: 0.6275 - accuracy: 0.6772 - val\_loss: 0.6209 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 2/100

10/10 [==============================] - 12s 1s/step - loss: 0.5617 - accuracy: 0.7342 - val\_loss: 0.6292 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 3/100

10/10 [==============================] - 12s 1s/step - loss: 0.5782 - accuracy: 0.7342 - val\_loss: 0.5576 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 4/100

10/10 [==============================] - 12s 1s/step - loss: 0.5541 - accuracy: 0.7342 - val\_loss: 0.5466 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 5/100

10/10 [==============================] - 12s 1s/step - loss: 0.5259 - accuracy: 0.7405 - val\_loss: 0.5339 - val\_accuracy: 0.7179 - lr: 0.0010

Epoch 6/100

10/10 [==============================] - 12s 1s/step - loss: 0.4758 - accuracy: 0.7658 - val\_loss: 0.5869 - val\_accuracy: 0.6538 - lr: 0.0010

Epoch 7/100

10/10 [==============================] - 12s 1s/step - loss: 0.5040 - accuracy: 0.7500 - val\_loss: 0.6101 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 8/100

10/10 [==============================] - 12s 1s/step - loss: 0.5167 - accuracy: 0.7563 - val\_loss: 0.4774 - val\_accuracy: 0.7179 - lr: 0.0010

Epoch 9/100

10/10 [==============================] - 12s 1s/step - loss: 0.4857 - accuracy: 0.7785 - val\_loss: 0.4602 - val\_accuracy: 0.7179 - lr: 0.0010

Epoch 10/100

10/10 [==============================] - 12s 1s/step - loss: 0.4971 - accuracy: 0.7468 - val\_loss: 0.4649 - val\_accuracy: 0.7692 - lr: 0.0010

Epoch 11/100

10/10 [==============================] - 12s 1s/step - loss: 0.4804 - accuracy: 0.7437 - val\_loss: 0.7071 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 12/100

10/10 [==============================] - 12s 1s/step - loss: 0.5183 - accuracy: 0.7658 - val\_loss: 0.4993 - val\_accuracy: 0.6923 - lr: 0.0010

Epoch 13/100

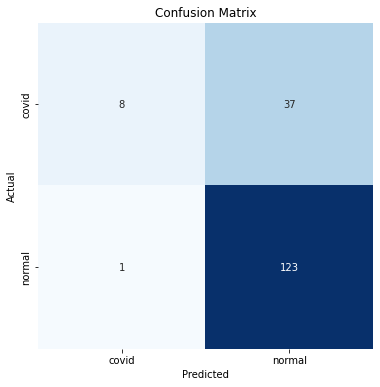
10/10 [==============================] - 12s 1s/step - loss: 0.4803 - accuracy: 0.7500 - val\_loss: 0.5078 - val\_accuracy: 0.6795 - lr: 1.0000e-04

Epoch 14/100

10/10 [==============================] - 12s 1s/step - loss: 0.4457 - accuracy: 0.7627 - val\_loss: 0.4916 - val\_accuracy: 0.6795 - lr: 1.0000e-04

Test Loss: 0.48082

Test Accuracy: 77.51%



Classification Report:

----------------------

precision recall f1-score support

covid 0.89 0.18 0.30 45

normal 0.77 0.99 0.87 124

accuracy 0.78 169

macro avg 0.83 0.58 0.58 169

weighted avg 0.80 0.78 0.71

third’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’’

Found 316 validated image filenames belonging to 2 classes.

Found 78 validated image filenames belonging to 2 classes.

Found 169 validated image filenames belonging to 2 classes.

Epoch 1/100

10/10 [==============================] - 13s 1s/step - loss: 1.9094 - accuracy: 0.5443 - val\_loss: 0.6171 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 2/100

10/10 [==============================] - 11s 1s/step - loss: 0.5513 - accuracy: 0.7342 - val\_loss: 0.6734 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 3/100

10/10 [==============================] - 11s 1s/step - loss: 0.5501 - accuracy: 0.7342 - val\_loss: 0.6025 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 4/100

10/10 [==============================] - 11s 1s/step - loss: 0.5475 - accuracy: 0.7342 - val\_loss: 0.6689 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 5/100

10/10 [==============================] - 11s 1s/step - loss: 0.5567 - accuracy: 0.7278 - val\_loss: 0.5517 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 6/100

10/10 [==============================] - 11s 1s/step - loss: 0.5418 - accuracy: 0.7342 - val\_loss: 0.5717 - val\_accuracy: 0.6410 - lr: 0.0010

Epoch 7/100

10/10 [==============================] - 11s 1s/step - loss: 0.5183 - accuracy: 0.7342 - val\_loss: 0.5617 - val\_accuracy: 0.6282 - lr: 0.0010

Epoch 8/100

10/10 [==============================] - 11s 1s/step - loss: 0.4977 - accuracy: 0.7405 - val\_loss: 0.5337 - val\_accuracy: 0.6282 - lr: 0.0010

Epoch 9/100

10/10 [==============================] - 11s 1s/step - loss: 0.4969 - accuracy: 0.7437 - val\_loss: 0.5287 - val\_accuracy: 0.6538 - lr: 0.0010

Epoch 10/100

10/10 [==============================] - 12s 1s/step - loss: 0.4643 - accuracy: 0.7437 - val\_loss: 0.5569 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 11/100

10/10 [==============================] - 11s 1s/step - loss: 0.4864 - accuracy: 0.7532 - val\_loss: 0.5044 - val\_accuracy: 0.6923 - lr: 0.0010

Epoch 12/100

10/10 [==============================] - 11s 1s/step - loss: 0.4930 - accuracy: 0.7405 - val\_loss: 0.4972 - val\_accuracy: 0.6667 - lr: 0.0010

Epoch 13/100

10/10 [==============================] - 11s 1s/step - loss: 0.4716 - accuracy: 0.7816 - val\_loss: 0.5200 - val\_accuracy: 0.7308 - lr: 0.0010

Epoch 14/100

10/10 [==============================] - 11s 1s/step - loss: 0.4594 - accuracy: 0.7785 - val\_loss: 0.4421 - val\_accuracy: 0.8205 - lr: 0.0010

Epoch 15/100

10/10 [==============================] - 11s 1s/step - loss: 0.3951 - accuracy: 0.8228 - val\_loss: 0.5490 - val\_accuracy: 0.6795 - lr: 0.0010

Epoch 16/100

10/10 [==============================] - 11s 1s/step - loss: 0.4373 - accuracy: 0.7880 - val\_loss: 0.4043 - val\_accuracy: 0.7821 - lr: 0.0010

Epoch 17/100

10/10 [==============================] - 11s 1s/step - loss: 0.3831 - accuracy: 0.8006 - val\_loss: 0.3942 - val\_accuracy: 0.7436 - lr: 0.0010

Epoch 18/100

10/10 [==============================] - 11s 1s/step - loss: 0.3644 - accuracy: 0.8354 - val\_loss: 0.3628 - val\_accuracy: 0.8077 - lr: 0.0010

Epoch 19/100

10/10 [==============================] - 11s 1s/step - loss: 0.3415 - accuracy: 0.8418 - val\_loss: 0.2937 - val\_accuracy: 0.9103 - lr: 0.0010

Epoch 20/100

10/10 [==============================] - 11s 1s/step - loss: 0.4195 - accuracy: 0.8101 - val\_loss: 0.5047 - val\_accuracy: 0.7308 - lr: 0.0010

Epoch 21/100

10/10 [==============================] - 11s 1s/step - loss: 0.3862 - accuracy: 0.8291 - val\_loss: 0.4086 - val\_accuracy: 0.8333 - lr: 0.0010

Epoch 22/100

10/10 [==============================] - 11s 1s/step - loss: 0.3696 - accuracy: 0.8165 - val\_loss: 0.3670 - val\_accuracy: 0.8718 - lr: 0.0010

Epoch 23/100

10/10 [==============================] - 11s 1s/step - loss: 0.3918 - accuracy: 0.8544 - val\_loss: 0.3631 - val\_accuracy: 0.9103 - lr: 1.0000e-04

Epoch 24/100

10/10 [==============================] - 11s 1s/step - loss: 0.3596 - accuracy: 0.8133 - val\_loss: 0.4152 - val\_accuracy: 0.7692 - lr: 1.0000e-04

Model: "sequential\_2"

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Layer (type) Output Shape Param #

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

conv2d\_10 (Conv2D) (None, 222, 222, 32) 896

max\_pooling2d\_5 (MaxPooling (None, 111, 111, 32) 0

2D)

dropout\_3 (Dropout) (None, 111, 111, 32) 0

conv2d\_11 (Conv2D) (None, 109, 109, 64) 18496

max\_pooling2d\_6 (MaxPooling (None, 54, 54, 64) 0

2D)

dropout\_4 (Dropout) (None, 54, 54, 64) 0

flatten\_2 (Flatten) (None, 186624) 0

dense\_3 (Dense) (None, 1) 186625

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

Total params: 206,017

Trainable params: 206,017

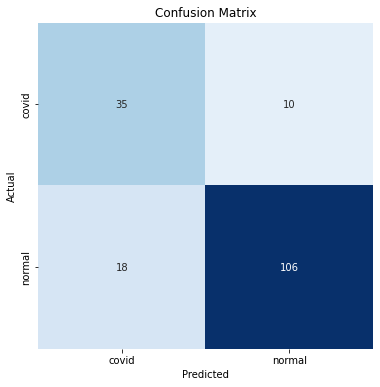
Non-trainable params: 0

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INFO:tensorflow:Assets written to: /content/drive/MyDrive/third model/assets

Test Loss: 0.39669

Test Accuracy: 83.43%



Classification Report:

----------------------

precision recall f1-score support

covid 0.66 0.78 0.71 45

normal 0.91 0.85 0.88 124

accuracy 0.83 169

macro avg 0.79 0.82 0.80 169

weighted avg 0.85 0.83 0.84 169