\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Layer (type) Output Shape Param # Connected to

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

input\_2 (InputLayer) [(None, 224, 224, 3 0 []

)]

conv1\_pad (ZeroPadding2D) (None, 230, 230, 3) 0 ['input\_2[0][0]']

conv1\_conv (Conv2D) (None, 112, 112, 64 9472 ['conv1\_pad[0][0]']

)

conv1\_bn (BatchNormalization) (None, 112, 112, 64 256 ['conv1\_conv[0][0]']

)

conv1\_relu (Activation) (None, 112, 112, 64 0 ['conv1\_bn[0][0]']

)

pool1\_pad (ZeroPadding2D) (None, 114, 114, 64 0 ['conv1\_relu[0][0]']

)

pool1\_pool (MaxPooling2D) (None, 56, 56, 64) 0 ['pool1\_pad[0][0]']

conv2\_block1\_1\_conv (Conv2D) (None, 56, 56, 64) 4160 ['pool1\_pool[0][0]']

conv2\_block1\_1\_bn (BatchNormal (None, 56, 56, 64) 256 ['conv2\_block1\_1\_conv[0][0]']

ization)

conv2\_block1\_1\_relu (Activatio (None, 56, 56, 64) 0 ['conv2\_block1\_1\_bn[0][0]']

n)

conv2\_block1\_2\_conv (Conv2D) (None, 56, 56, 64) 36928 ['conv2\_block1\_1\_relu[0][0]']

conv2\_block1\_2\_bn (BatchNormal (None, 56, 56, 64) 256 ['conv2\_block1\_2\_conv[0][0]']

ization)

conv2\_block1\_2\_relu (Activatio (None, 56, 56, 64) 0 ['conv2\_block1\_2\_bn[0][0]']

n)

conv2\_block1\_0\_conv (Conv2D) (None, 56, 56, 256) 16640 ['pool1\_pool[0][0]']

conv2\_block1\_3\_conv (Conv2D) (None, 56, 56, 256) 16640 ['conv2\_block1\_2\_relu[0][0]']

conv2\_block1\_0\_bn (BatchNormal (None, 56, 56, 256) 1024 ['conv2\_block1\_0\_conv[0][0]']

ization)

conv2\_block1\_3\_bn (BatchNormal (None, 56, 56, 256) 1024 ['conv2\_block1\_3\_conv[0][0]']

ization)

conv2\_block1\_add (Add) (None, 56, 56, 256) 0 ['conv2\_block1\_0\_bn[0][0]',

'conv2\_block1\_3\_bn[0][0]']

conv2\_block1\_out (Activation) (None, 56, 56, 256) 0 ['conv2\_block1\_add[0][0]']

conv2\_block2\_1\_conv (Conv2D) (None, 56, 56, 64) 16448 ['conv2\_block1\_out[0][0]']

conv2\_block2\_1\_bn (BatchNormal (None, 56, 56, 64) 256 ['conv2\_block2\_1\_conv[0][0]']

ization)

conv2\_block2\_1\_relu (Activatio (None, 56, 56, 64) 0 ['conv2\_block2\_1\_bn[0][0]']

n)

conv2\_block2\_2\_conv (Conv2D) (None, 56, 56, 64) 36928 ['conv2\_block2\_1\_relu[0][0]']

conv2\_block2\_2\_bn (BatchNormal (None, 56, 56, 64) 256 ['conv2\_block2\_2\_conv[0][0]']

ization)

conv2\_block2\_2\_relu (Activatio (None, 56, 56, 64) 0 ['conv2\_block2\_2\_bn[0][0]']

n)

conv2\_block2\_3\_conv (Conv2D) (None, 56, 56, 256) 16640 ['conv2\_block2\_2\_relu[0][0]']

conv2\_block2\_3\_bn (BatchNormal (None, 56, 56, 256) 1024 ['conv2\_block2\_3\_conv[0][0]']

ization)

conv2\_block2\_add (Add) (None, 56, 56, 256) 0 ['conv2\_block1\_out[0][0]',

'conv2\_block2\_3\_bn[0][0]']

conv2\_block2\_out (Activation) (None, 56, 56, 256) 0 ['conv2\_block2\_add[0][0]']

conv2\_block3\_1\_conv (Conv2D) (None, 56, 56, 64) 16448 ['conv2\_block2\_out[0][0]']

conv2\_block3\_1\_bn (BatchNormal (None, 56, 56, 64) 256 ['conv2\_block3\_1\_conv[0][0]']

ization)

conv2\_block3\_1\_relu (Activatio (None, 56, 56, 64) 0 ['conv2\_block3\_1\_bn[0][0]']

n)

conv2\_block3\_2\_conv (Conv2D) (None, 56, 56, 64) 36928 ['conv2\_block3\_1\_relu[0][0]']

conv2\_block3\_2\_bn (BatchNormal (None, 56, 56, 64) 256 ['conv2\_block3\_2\_conv[0][0]']

ization)

conv2\_block3\_2\_relu (Activatio (None, 56, 56, 64) 0 ['conv2\_block3\_2\_bn[0][0]']

n)

conv2\_block3\_3\_conv (Conv2D) (None, 56, 56, 256) 16640 ['conv2\_block3\_2\_relu[0][0]']

conv2\_block3\_3\_bn (BatchNormal (None, 56, 56, 256) 1024 ['conv2\_block3\_3\_conv[0][0]']

ization)

conv2\_block3\_add (Add) (None, 56, 56, 256) 0 ['conv2\_block2\_out[0][0]',

'conv2\_block3\_3\_bn[0][0]']

conv2\_block3\_out (Activation) (None, 56, 56, 256) 0 ['conv2\_block3\_add[0][0]']

conv3\_block1\_1\_conv (Conv2D) (None, 28, 28, 128) 32896 ['conv2\_block3\_out[0][0]']

conv3\_block1\_1\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block1\_1\_conv[0][0]']

ization)

conv3\_block1\_1\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block1\_1\_bn[0][0]']

n)

conv3\_block1\_2\_conv (Conv2D) (None, 28, 28, 128) 147584 ['conv3\_block1\_1\_relu[0][0]']

conv3\_block1\_2\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block1\_2\_conv[0][0]']

ization)

conv3\_block1\_2\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block1\_2\_bn[0][0]']

n)

conv3\_block1\_0\_conv (Conv2D) (None, 28, 28, 512) 131584 ['conv2\_block3\_out[0][0]']

conv3\_block1\_3\_conv (Conv2D) (None, 28, 28, 512) 66048 ['conv3\_block1\_2\_relu[0][0]']

conv3\_block1\_0\_bn (BatchNormal (None, 28, 28, 512) 2048 ['conv3\_block1\_0\_conv[0][0]']

ization)

conv3\_block1\_3\_bn (BatchNormal (None, 28, 28, 512) 2048 ['conv3\_block1\_3\_conv[0][0]']

ization)

conv3\_block1\_add (Add) (None, 28, 28, 512) 0 ['conv3\_block1\_0\_bn[0][0]',

'conv3\_block1\_3\_bn[0][0]']

conv3\_block1\_out (Activation) (None, 28, 28, 512) 0 ['conv3\_block1\_add[0][0]']

conv3\_block2\_1\_conv (Conv2D) (None, 28, 28, 128) 65664 ['conv3\_block1\_out[0][0]']

conv3\_block2\_1\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block2\_1\_conv[0][0]']

ization)

conv3\_block2\_1\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block2\_1\_bn[0][0]']

n)

conv3\_block2\_2\_conv (Conv2D) (None, 28, 28, 128) 147584 ['conv3\_block2\_1\_relu[0][0]']

conv3\_block2\_2\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block2\_2\_conv[0][0]']

ization)

conv3\_block2\_2\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block2\_2\_bn[0][0]']

n)

conv3\_block2\_3\_conv (Conv2D) (None, 28, 28, 512) 66048 ['conv3\_block2\_2\_relu[0][0]']

conv3\_block2\_3\_bn (BatchNormal (None, 28, 28, 512) 2048 ['conv3\_block2\_3\_conv[0][0]']

ization)

conv3\_block2\_add (Add) (None, 28, 28, 512) 0 ['conv3\_block1\_out[0][0]',

'conv3\_block2\_3\_bn[0][0]']

conv3\_block2\_out (Activation) (None, 28, 28, 512) 0 ['conv3\_block2\_add[0][0]']

conv3\_block3\_1\_conv (Conv2D) (None, 28, 28, 128) 65664 ['conv3\_block2\_out[0][0]']

conv3\_block3\_1\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block3\_1\_conv[0][0]']

ization)

conv3\_block3\_1\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block3\_1\_bn[0][0]']

n)

conv3\_block3\_2\_conv (Conv2D) (None, 28, 28, 128) 147584 ['conv3\_block3\_1\_relu[0][0]']

conv3\_block3\_2\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block3\_2\_conv[0][0]']

ization)

conv3\_block3\_2\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block3\_2\_bn[0][0]']

n)

conv3\_block3\_3\_conv (Conv2D) (None, 28, 28, 512) 66048 ['conv3\_block3\_2\_relu[0][0]']

conv3\_block3\_3\_bn (BatchNormal (None, 28, 28, 512) 2048 ['conv3\_block3\_3\_conv[0][0]']

ization)

conv3\_block3\_add (Add) (None, 28, 28, 512) 0 ['conv3\_block2\_out[0][0]',

'conv3\_block3\_3\_bn[0][0]']

conv3\_block3\_out (Activation) (None, 28, 28, 512) 0 ['conv3\_block3\_add[0][0]']

conv3\_block4\_1\_conv (Conv2D) (None, 28, 28, 128) 65664 ['conv3\_block3\_out[0][0]']

conv3\_block4\_1\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block4\_1\_conv[0][0]']

ization)

conv3\_block4\_1\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block4\_1\_bn[0][0]']

n)

conv3\_block4\_2\_conv (Conv2D) (None, 28, 28, 128) 147584 ['conv3\_block4\_1\_relu[0][0]']

conv3\_block4\_2\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block4\_2\_conv[0][0]']

ization)

conv3\_block4\_2\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block4\_2\_bn[0][0]']

n)

conv3\_block4\_3\_conv (Conv2D) (None, 28, 28, 512) 66048 ['conv3\_block4\_2\_relu[0][0]']

conv3\_block4\_3\_bn (BatchNormal (None, 28, 28, 512) 2048 ['conv3\_block4\_3\_conv[0][0]']

ization)

conv3\_block4\_add (Add) (None, 28, 28, 512) 0 ['conv3\_block3\_out[0][0]',

'conv3\_block4\_3\_bn[0][0]']

conv3\_block4\_out (Activation) (None, 28, 28, 512) 0 ['conv3\_block4\_add[0][0]']

conv3\_block5\_1\_conv (Conv2D) (None, 28, 28, 128) 65664 ['conv3\_block4\_out[0][0]']

conv3\_block5\_1\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block5\_1\_conv[0][0]']

ization)

conv3\_block5\_1\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block5\_1\_bn[0][0]']

n)

conv3\_block5\_2\_conv (Conv2D) (None, 28, 28, 128) 147584 ['conv3\_block5\_1\_relu[0][0]']

conv3\_block5\_2\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block5\_2\_conv[0][0]']

ization)

conv3\_block5\_2\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block5\_2\_bn[0][0]']

n)

conv3\_block5\_3\_conv (Conv2D) (None, 28, 28, 512) 66048 ['conv3\_block5\_2\_relu[0][0]']

conv3\_block5\_3\_bn (BatchNormal (None, 28, 28, 512) 2048 ['conv3\_block5\_3\_conv[0][0]']

ization)

conv3\_block5\_add (Add) (None, 28, 28, 512) 0 ['conv3\_block4\_out[0][0]',

'conv3\_block5\_3\_bn[0][0]']

conv3\_block5\_out (Activation) (None, 28, 28, 512) 0 ['conv3\_block5\_add[0][0]']

conv3\_block6\_1\_conv (Conv2D) (None, 28, 28, 128) 65664 ['conv3\_block5\_out[0][0]']

conv3\_block6\_1\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block6\_1\_conv[0][0]']

ization)

conv3\_block6\_1\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block6\_1\_bn[0][0]']

n)

conv3\_block6\_2\_conv (Conv2D) (None, 28, 28, 128) 147584 ['conv3\_block6\_1\_relu[0][0]']

conv3\_block6\_2\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block6\_2\_conv[0][0]']

ization)

conv3\_block6\_2\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block6\_2\_bn[0][0]']

n)

conv3\_block6\_3\_conv (Conv2D) (None, 28, 28, 512) 66048 ['conv3\_block6\_2\_relu[0][0]']

conv3\_block6\_3\_bn (BatchNormal (None, 28, 28, 512) 2048 ['conv3\_block6\_3\_conv[0][0]']

ization)

conv3\_block6\_add (Add) (None, 28, 28, 512) 0 ['conv3\_block5\_out[0][0]',

'conv3\_block6\_3\_bn[0][0]']

conv3\_block6\_out (Activation) (None, 28, 28, 512) 0 ['conv3\_block6\_add[0][0]']

conv3\_block7\_1\_conv (Conv2D) (None, 28, 28, 128) 65664 ['conv3\_block6\_out[0][0]']

conv3\_block7\_1\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block7\_1\_conv[0][0]']

ization)

conv3\_block7\_1\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block7\_1\_bn[0][0]']

n)

conv3\_block7\_2\_conv (Conv2D) (None, 28, 28, 128) 147584 ['conv3\_block7\_1\_relu[0][0]']

conv3\_block7\_2\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block7\_2\_conv[0][0]']

ization)

conv3\_block7\_2\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block7\_2\_bn[0][0]']

n)

conv3\_block7\_3\_conv (Conv2D) (None, 28, 28, 512) 66048 ['conv3\_block7\_2\_relu[0][0]']

conv3\_block7\_3\_bn (BatchNormal (None, 28, 28, 512) 2048 ['conv3\_block7\_3\_conv[0][0]']

ization)

conv3\_block7\_add (Add) (None, 28, 28, 512) 0 ['conv3\_block6\_out[0][0]',

'conv3\_block7\_3\_bn[0][0]']

conv3\_block7\_out (Activation) (None, 28, 28, 512) 0 ['conv3\_block7\_add[0][0]']

conv3\_block8\_1\_conv (Conv2D) (None, 28, 28, 128) 65664 ['conv3\_block7\_out[0][0]']

conv3\_block8\_1\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block8\_1\_conv[0][0]']

ization)

conv3\_block8\_1\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block8\_1\_bn[0][0]']

n)

conv3\_block8\_2\_conv (Conv2D) (None, 28, 28, 128) 147584 ['conv3\_block8\_1\_relu[0][0]']

conv3\_block8\_2\_bn (BatchNormal (None, 28, 28, 128) 512 ['conv3\_block8\_2\_conv[0][0]']

ization)

conv3\_block8\_2\_relu (Activatio (None, 28, 28, 128) 0 ['conv3\_block8\_2\_bn[0][0]']

n)

conv3\_block8\_3\_conv (Conv2D) (None, 28, 28, 512) 66048 ['conv3\_block8\_2\_relu[0][0]']

conv3\_block8\_3\_bn (BatchNormal (None, 28, 28, 512) 2048 ['conv3\_block8\_3\_conv[0][0]']

ization)

conv3\_block8\_add (Add) (None, 28, 28, 512) 0 ['conv3\_block7\_out[0][0]',

'conv3\_block8\_3\_bn[0][0]']

conv3\_block8\_out (Activation) (None, 28, 28, 512) 0 ['conv3\_block8\_add[0][0]']

conv4\_block1\_1\_conv (Conv2D) (None, 14, 14, 256) 131328 ['conv3\_block8\_out[0][0]']

conv4\_block1\_1\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block1\_1\_conv[0][0]']

ization)

conv4\_block1\_1\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block1\_1\_bn[0][0]']

n)

conv4\_block1\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block1\_1\_relu[0][0]']

conv4\_block1\_2\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block1\_2\_conv[0][0]']

ization)

conv4\_block1\_2\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block1\_2\_bn[0][0]']

n)

conv4\_block1\_0\_conv (Conv2D) (None, 14, 14, 1024 525312 ['conv3\_block8\_out[0][0]']

)

conv4\_block1\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block1\_2\_relu[0][0]']

)

conv4\_block1\_0\_bn (BatchNormal (None, 14, 14, 1024 4096 ['conv4\_block1\_0\_conv[0][0]']

ization) )

conv4\_block1\_3\_bn (BatchNormal (None, 14, 14, 1024 4096 ['conv4\_block1\_3\_conv[0][0]']

ization) )

conv4\_block1\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block1\_0\_bn[0][0]',

) 'conv4\_block1\_3\_bn[0][0]']

conv4\_block1\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block1\_add[0][0]']

)

conv4\_block2\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block1\_out[0][0]']

conv4\_block2\_1\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block2\_1\_conv[0][0]']

ization)

conv4\_block2\_1\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block2\_1\_bn[0][0]']

n)

conv4\_block2\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block2\_1\_relu[0][0]']

conv4\_block2\_2\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block2\_2\_conv[0][0]']

ization)

conv4\_block2\_2\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block2\_2\_bn[0][0]']

n)

conv4\_block2\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block2\_2\_relu[0][0]']

)

conv4\_block2\_3\_bn (BatchNormal (None, 14, 14, 1024 4096 ['conv4\_block2\_3\_conv[0][0]']

ization) )

conv4\_block2\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block1\_out[0][0]',

) 'conv4\_block2\_3\_bn[0][0]']

conv4\_block2\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block2\_add[0][0]']

)

conv4\_block3\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block2\_out[0][0]']

conv4\_block3\_1\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block3\_1\_conv[0][0]']

ization)

conv4\_block3\_1\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block3\_1\_bn[0][0]']

n)

conv4\_block3\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block3\_1\_relu[0][0]']

conv4\_block3\_2\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block3\_2\_conv[0][0]']

ization)

conv4\_block3\_2\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block3\_2\_bn[0][0]']

n)

conv4\_block3\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block3\_2\_relu[0][0]']

)

conv4\_block3\_3\_bn (BatchNormal (None, 14, 14, 1024 4096 ['conv4\_block3\_3\_conv[0][0]']

ization) )

conv4\_block3\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block2\_out[0][0]',

) 'conv4\_block3\_3\_bn[0][0]']

conv4\_block3\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block3\_add[0][0]']

)

conv4\_block4\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block3\_out[0][0]']

conv4\_block4\_1\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block4\_1\_conv[0][0]']

ization)

conv4\_block4\_1\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block4\_1\_bn[0][0]']

n)

conv4\_block4\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block4\_1\_relu[0][0]']

conv4\_block4\_2\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block4\_2\_conv[0][0]']

ization)

conv4\_block4\_2\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block4\_2\_bn[0][0]']

n)

conv4\_block4\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block4\_2\_relu[0][0]']

)

conv4\_block4\_3\_bn (BatchNormal (None, 14, 14, 1024 4096 ['conv4\_block4\_3\_conv[0][0]']

ization) )

conv4\_block4\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block3\_out[0][0]',

) 'conv4\_block4\_3\_bn[0][0]']

conv4\_block4\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block4\_add[0][0]']

)

conv4\_block5\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block4\_out[0][0]']

conv4\_block5\_1\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block5\_1\_conv[0][0]']

ization)

conv4\_block5\_1\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block5\_1\_bn[0][0]']

n)

conv4\_block5\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block5\_1\_relu[0][0]']

conv4\_block5\_2\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block5\_2\_conv[0][0]']

ization)

conv4\_block5\_2\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block5\_2\_bn[0][0]']

n)

conv4\_block5\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block5\_2\_relu[0][0]']

)

conv4\_block5\_3\_bn (BatchNormal (None, 14, 14, 1024 4096 ['conv4\_block5\_3\_conv[0][0]']

ization) )

conv4\_block5\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block4\_out[0][0]',

) 'conv4\_block5\_3\_bn[0][0]']

conv4\_block5\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block5\_add[0][0]']

)

conv4\_block6\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block5\_out[0][0]']

conv4\_block6\_1\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block6\_1\_conv[0][0]']

ization)

conv4\_block6\_1\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block6\_1\_bn[0][0]']

n)

conv4\_block6\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block6\_1\_relu[0][0]']

conv4\_block6\_2\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block6\_2\_conv[0][0]']

ization)

conv4\_block6\_2\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block6\_2\_bn[0][0]']

n)

conv4\_block6\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block6\_2\_relu[0][0]']

)

conv4\_block6\_3\_bn (BatchNormal (None, 14, 14, 1024 4096 ['conv4\_block6\_3\_conv[0][0]']

ization) )

conv4\_block6\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block5\_out[0][0]',

) 'conv4\_block6\_3\_bn[0][0]']

conv4\_block6\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block6\_add[0][0]']

)

conv4\_block7\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block6\_out[0][0]']

conv4\_block7\_1\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block7\_1\_conv[0][0]']

ization)

conv4\_block7\_1\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block7\_1\_bn[0][0]']

n)

conv4\_block7\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block7\_1\_relu[0][0]']

conv4\_block7\_2\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block7\_2\_conv[0][0]']

ization)

conv4\_block7\_2\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block7\_2\_bn[0][0]']

n)

conv4\_block7\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block7\_2\_relu[0][0]']

)

conv4\_block7\_3\_bn (BatchNormal (None, 14, 14, 1024 4096 ['conv4\_block7\_3\_conv[0][0]']

ization) )

conv4\_block7\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block6\_out[0][0]',

) 'conv4\_block7\_3\_bn[0][0]']

conv4\_block7\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block7\_add[0][0]']

)

conv4\_block8\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block7\_out[0][0]']

conv4\_block8\_1\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block8\_1\_conv[0][0]']

ization)

conv4\_block8\_1\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block8\_1\_bn[0][0]']

n)

conv4\_block8\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block8\_1\_relu[0][0]']

conv4\_block8\_2\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block8\_2\_conv[0][0]']

ization)

conv4\_block8\_2\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block8\_2\_bn[0][0]']

n)

conv4\_block8\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block8\_2\_relu[0][0]']

)

conv4\_block8\_3\_bn (BatchNormal (None, 14, 14, 1024 4096 ['conv4\_block8\_3\_conv[0][0]']

ization) )

conv4\_block8\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block7\_out[0][0]',

) 'conv4\_block8\_3\_bn[0][0]']

conv4\_block8\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block8\_add[0][0]']

)

conv4\_block9\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block8\_out[0][0]']

conv4\_block9\_1\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block9\_1\_conv[0][0]']

ization)

conv4\_block9\_1\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block9\_1\_bn[0][0]']

n)

conv4\_block9\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block9\_1\_relu[0][0]']

conv4\_block9\_2\_bn (BatchNormal (None, 14, 14, 256) 1024 ['conv4\_block9\_2\_conv[0][0]']

ization)

conv4\_block9\_2\_relu (Activatio (None, 14, 14, 256) 0 ['conv4\_block9\_2\_bn[0][0]']

n)

conv4\_block9\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block9\_2\_relu[0][0]']

)

conv4\_block9\_3\_bn (BatchNormal (None, 14, 14, 1024 4096 ['conv4\_block9\_3\_conv[0][0]']

ization) )

conv4\_block9\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block8\_out[0][0]',

) 'conv4\_block9\_3\_bn[0][0]']

conv4\_block9\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block9\_add[0][0]']

)

conv4\_block10\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block9\_out[0][0]']

conv4\_block10\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block10\_1\_conv[0][0]']

lization)

conv4\_block10\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block10\_1\_bn[0][0]']

on)

conv4\_block10\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block10\_1\_relu[0][0]']

conv4\_block10\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block10\_2\_conv[0][0]']

lization)

conv4\_block10\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block10\_2\_bn[0][0]']

on)

conv4\_block10\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block10\_2\_relu[0][0]']

)

conv4\_block10\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block10\_3\_conv[0][0]']

lization) )

conv4\_block10\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block9\_out[0][0]',

) 'conv4\_block10\_3\_bn[0][0]']

conv4\_block10\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block10\_add[0][0]']

)

conv4\_block11\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block10\_out[0][0]']

conv4\_block11\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block11\_1\_conv[0][0]']

lization)

conv4\_block11\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block11\_1\_bn[0][0]']

on)

conv4\_block11\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block11\_1\_relu[0][0]']

conv4\_block11\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block11\_2\_conv[0][0]']

lization)

conv4\_block11\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block11\_2\_bn[0][0]']

on)

conv4\_block11\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block11\_2\_relu[0][0]']

)

conv4\_block11\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block11\_3\_conv[0][0]']

lization) )

conv4\_block11\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block10\_out[0][0]',

) 'conv4\_block11\_3\_bn[0][0]']

conv4\_block11\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block11\_add[0][0]']

)

conv4\_block12\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block11\_out[0][0]']

conv4\_block12\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block12\_1\_conv[0][0]']

lization)

conv4\_block12\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block12\_1\_bn[0][0]']

on)

conv4\_block12\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block12\_1\_relu[0][0]']

conv4\_block12\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block12\_2\_conv[0][0]']

lization)

conv4\_block12\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block12\_2\_bn[0][0]']

on)

conv4\_block12\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block12\_2\_relu[0][0]']

)

conv4\_block12\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block12\_3\_conv[0][0]']

lization) )

conv4\_block12\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block11\_out[0][0]',

) 'conv4\_block12\_3\_bn[0][0]']

conv4\_block12\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block12\_add[0][0]']

)

conv4\_block13\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block12\_out[0][0]']

conv4\_block13\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block13\_1\_conv[0][0]']

lization)

conv4\_block13\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block13\_1\_bn[0][0]']

on)

conv4\_block13\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block13\_1\_relu[0][0]']

conv4\_block13\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block13\_2\_conv[0][0]']

lization)

conv4\_block13\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block13\_2\_bn[0][0]']

on)

conv4\_block13\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block13\_2\_relu[0][0]']

)

conv4\_block13\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block13\_3\_conv[0][0]']

lization) )

conv4\_block13\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block12\_out[0][0]',

) 'conv4\_block13\_3\_bn[0][0]']

conv4\_block13\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block13\_add[0][0]']

)

conv4\_block14\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block13\_out[0][0]']

conv4\_block14\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block14\_1\_conv[0][0]']

lization)

conv4\_block14\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block14\_1\_bn[0][0]']

on)

conv4\_block14\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block14\_1\_relu[0][0]']

conv4\_block14\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block14\_2\_conv[0][0]']

lization)

conv4\_block14\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block14\_2\_bn[0][0]']

on)

conv4\_block14\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block14\_2\_relu[0][0]']

)

conv4\_block14\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block14\_3\_conv[0][0]']

lization) )

conv4\_block14\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block13\_out[0][0]',

) 'conv4\_block14\_3\_bn[0][0]']

conv4\_block14\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block14\_add[0][0]']

)

conv4\_block15\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block14\_out[0][0]']

conv4\_block15\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block15\_1\_conv[0][0]']

lization)

conv4\_block15\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block15\_1\_bn[0][0]']

on)

conv4\_block15\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block15\_1\_relu[0][0]']

conv4\_block15\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block15\_2\_conv[0][0]']

lization)

conv4\_block15\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block15\_2\_bn[0][0]']

on)

conv4\_block15\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block15\_2\_relu[0][0]']

)

conv4\_block15\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block15\_3\_conv[0][0]']

lization) )

conv4\_block15\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block14\_out[0][0]',

) 'conv4\_block15\_3\_bn[0][0]']

conv4\_block15\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block15\_add[0][0]']

)

conv4\_block16\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block15\_out[0][0]']

conv4\_block16\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block16\_1\_conv[0][0]']

lization)

conv4\_block16\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block16\_1\_bn[0][0]']

on)

conv4\_block16\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block16\_1\_relu[0][0]']

conv4\_block16\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block16\_2\_conv[0][0]']

lization)

conv4\_block16\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block16\_2\_bn[0][0]']

on)

conv4\_block16\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block16\_2\_relu[0][0]']

)

conv4\_block16\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block16\_3\_conv[0][0]']

lization) )

conv4\_block16\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block15\_out[0][0]',

) 'conv4\_block16\_3\_bn[0][0]']

conv4\_block16\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block16\_add[0][0]']

)

conv4\_block17\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block16\_out[0][0]']

conv4\_block17\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block17\_1\_conv[0][0]']

lization)

conv4\_block17\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block17\_1\_bn[0][0]']

on)

conv4\_block17\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block17\_1\_relu[0][0]']

conv4\_block17\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block17\_2\_conv[0][0]']

lization)

conv4\_block17\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block17\_2\_bn[0][0]']

on)

conv4\_block17\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block17\_2\_relu[0][0]']

)

conv4\_block17\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block17\_3\_conv[0][0]']

lization) )

conv4\_block17\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block16\_out[0][0]',

) 'conv4\_block17\_3\_bn[0][0]']

conv4\_block17\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block17\_add[0][0]']

)

conv4\_block18\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block17\_out[0][0]']

conv4\_block18\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block18\_1\_conv[0][0]']

lization)

conv4\_block18\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block18\_1\_bn[0][0]']

on)

conv4\_block18\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block18\_1\_relu[0][0]']

conv4\_block18\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block18\_2\_conv[0][0]']

lization)

conv4\_block18\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block18\_2\_bn[0][0]']

on)

conv4\_block18\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block18\_2\_relu[0][0]']

)

conv4\_block18\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block18\_3\_conv[0][0]']

lization) )

conv4\_block18\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block17\_out[0][0]',

) 'conv4\_block18\_3\_bn[0][0]']

conv4\_block18\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block18\_add[0][0]']

)

conv4\_block19\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block18\_out[0][0]']

conv4\_block19\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block19\_1\_conv[0][0]']

lization)

conv4\_block19\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block19\_1\_bn[0][0]']

on)

conv4\_block19\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block19\_1\_relu[0][0]']

conv4\_block19\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block19\_2\_conv[0][0]']

lization)

conv4\_block19\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block19\_2\_bn[0][0]']

on)

conv4\_block19\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block19\_2\_relu[0][0]']

)

conv4\_block19\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block19\_3\_conv[0][0]']

lization) )

conv4\_block19\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block18\_out[0][0]',

) 'conv4\_block19\_3\_bn[0][0]']

conv4\_block19\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block19\_add[0][0]']

)

conv4\_block20\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block19\_out[0][0]']

conv4\_block20\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block20\_1\_conv[0][0]']

lization)

conv4\_block20\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block20\_1\_bn[0][0]']

on)

conv4\_block20\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block20\_1\_relu[0][0]']

conv4\_block20\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block20\_2\_conv[0][0]']

lization)

conv4\_block20\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block20\_2\_bn[0][0]']

on)

conv4\_block20\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block20\_2\_relu[0][0]']

)

conv4\_block20\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block20\_3\_conv[0][0]']

lization) )

conv4\_block20\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block19\_out[0][0]',

) 'conv4\_block20\_3\_bn[0][0]']

conv4\_block20\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block20\_add[0][0]']

)

conv4\_block21\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block20\_out[0][0]']

conv4\_block21\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block21\_1\_conv[0][0]']

lization)

conv4\_block21\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block21\_1\_bn[0][0]']

on)

conv4\_block21\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block21\_1\_relu[0][0]']

conv4\_block21\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block21\_2\_conv[0][0]']

lization)

conv4\_block21\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block21\_2\_bn[0][0]']

on)

conv4\_block21\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block21\_2\_relu[0][0]']

)

conv4\_block21\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block21\_3\_conv[0][0]']

lization) )

conv4\_block21\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block20\_out[0][0]',

) 'conv4\_block21\_3\_bn[0][0]']

conv4\_block21\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block21\_add[0][0]']

)

conv4\_block22\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block21\_out[0][0]']

conv4\_block22\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block22\_1\_conv[0][0]']

lization)

conv4\_block22\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block22\_1\_bn[0][0]']

on)

conv4\_block22\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block22\_1\_relu[0][0]']

conv4\_block22\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block22\_2\_conv[0][0]']

lization)

conv4\_block22\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block22\_2\_bn[0][0]']

on)

conv4\_block22\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block22\_2\_relu[0][0]']

)

conv4\_block22\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block22\_3\_conv[0][0]']

lization) )

conv4\_block22\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block21\_out[0][0]',

) 'conv4\_block22\_3\_bn[0][0]']

conv4\_block22\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block22\_add[0][0]']

)

conv4\_block23\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block22\_out[0][0]']

conv4\_block23\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block23\_1\_conv[0][0]']

lization)

conv4\_block23\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block23\_1\_bn[0][0]']

on)

conv4\_block23\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block23\_1\_relu[0][0]']

conv4\_block23\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block23\_2\_conv[0][0]']

lization)

conv4\_block23\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block23\_2\_bn[0][0]']

on)

conv4\_block23\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block23\_2\_relu[0][0]']

)

conv4\_block23\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block23\_3\_conv[0][0]']

lization) )

conv4\_block23\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block22\_out[0][0]',

) 'conv4\_block23\_3\_bn[0][0]']

conv4\_block23\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block23\_add[0][0]']

)

conv4\_block24\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block23\_out[0][0]']

conv4\_block24\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block24\_1\_conv[0][0]']

lization)

conv4\_block24\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block24\_1\_bn[0][0]']

on)

conv4\_block24\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block24\_1\_relu[0][0]']

conv4\_block24\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block24\_2\_conv[0][0]']

lization)

conv4\_block24\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block24\_2\_bn[0][0]']

on)

conv4\_block24\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block24\_2\_relu[0][0]']

)

conv4\_block24\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block24\_3\_conv[0][0]']

lization) )

conv4\_block24\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block23\_out[0][0]',

) 'conv4\_block24\_3\_bn[0][0]']

conv4\_block24\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block24\_add[0][0]']

)

conv4\_block25\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block24\_out[0][0]']

conv4\_block25\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block25\_1\_conv[0][0]']

lization)

conv4\_block25\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block25\_1\_bn[0][0]']

on)

conv4\_block25\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block25\_1\_relu[0][0]']

conv4\_block25\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block25\_2\_conv[0][0]']

lization)

conv4\_block25\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block25\_2\_bn[0][0]']

on)

conv4\_block25\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block25\_2\_relu[0][0]']

)

conv4\_block25\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block25\_3\_conv[0][0]']

lization) )

conv4\_block25\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block24\_out[0][0]',

) 'conv4\_block25\_3\_bn[0][0]']

conv4\_block25\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block25\_add[0][0]']

)

conv4\_block26\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block25\_out[0][0]']

conv4\_block26\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block26\_1\_conv[0][0]']

lization)

conv4\_block26\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block26\_1\_bn[0][0]']

on)

conv4\_block26\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block26\_1\_relu[0][0]']

conv4\_block26\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block26\_2\_conv[0][0]']

lization)

conv4\_block26\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block26\_2\_bn[0][0]']

on)

conv4\_block26\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block26\_2\_relu[0][0]']

)

conv4\_block26\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block26\_3\_conv[0][0]']

lization) )

conv4\_block26\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block25\_out[0][0]',

) 'conv4\_block26\_3\_bn[0][0]']

conv4\_block26\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block26\_add[0][0]']

)

conv4\_block27\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block26\_out[0][0]']

conv4\_block27\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block27\_1\_conv[0][0]']

lization)

conv4\_block27\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block27\_1\_bn[0][0]']

on)

conv4\_block27\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block27\_1\_relu[0][0]']

conv4\_block27\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block27\_2\_conv[0][0]']

lization)

conv4\_block27\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block27\_2\_bn[0][0]']

on)

conv4\_block27\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block27\_2\_relu[0][0]']

)

conv4\_block27\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block27\_3\_conv[0][0]']

lization) )

conv4\_block27\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block26\_out[0][0]',

) 'conv4\_block27\_3\_bn[0][0]']

conv4\_block27\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block27\_add[0][0]']

)

conv4\_block28\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block27\_out[0][0]']

conv4\_block28\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block28\_1\_conv[0][0]']

lization)

conv4\_block28\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block28\_1\_bn[0][0]']

on)

conv4\_block28\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block28\_1\_relu[0][0]']

conv4\_block28\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block28\_2\_conv[0][0]']

lization)

conv4\_block28\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block28\_2\_bn[0][0]']

on)

conv4\_block28\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block28\_2\_relu[0][0]']

)

conv4\_block28\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block28\_3\_conv[0][0]']

lization) )

conv4\_block28\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block27\_out[0][0]',

) 'conv4\_block28\_3\_bn[0][0]']

conv4\_block28\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block28\_add[0][0]']

)

conv4\_block29\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block28\_out[0][0]']

conv4\_block29\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block29\_1\_conv[0][0]']

lization)

conv4\_block29\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block29\_1\_bn[0][0]']

on)

conv4\_block29\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block29\_1\_relu[0][0]']

conv4\_block29\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block29\_2\_conv[0][0]']

lization)

conv4\_block29\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block29\_2\_bn[0][0]']

on)

conv4\_block29\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block29\_2\_relu[0][0]']

)

conv4\_block29\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block29\_3\_conv[0][0]']

lization) )

conv4\_block29\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block28\_out[0][0]',

) 'conv4\_block29\_3\_bn[0][0]']

conv4\_block29\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block29\_add[0][0]']

)

conv4\_block30\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block29\_out[0][0]']

conv4\_block30\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block30\_1\_conv[0][0]']

lization)

conv4\_block30\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block30\_1\_bn[0][0]']

on)

conv4\_block30\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block30\_1\_relu[0][0]']

conv4\_block30\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block30\_2\_conv[0][0]']

lization)

conv4\_block30\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block30\_2\_bn[0][0]']

on)

conv4\_block30\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block30\_2\_relu[0][0]']

)

conv4\_block30\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block30\_3\_conv[0][0]']

lization) )

conv4\_block30\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block29\_out[0][0]',

) 'conv4\_block30\_3\_bn[0][0]']

conv4\_block30\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block30\_add[0][0]']

)

conv4\_block31\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block30\_out[0][0]']

conv4\_block31\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block31\_1\_conv[0][0]']

lization)

conv4\_block31\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block31\_1\_bn[0][0]']

on)

conv4\_block31\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block31\_1\_relu[0][0]']

conv4\_block31\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block31\_2\_conv[0][0]']

lization)

conv4\_block31\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block31\_2\_bn[0][0]']

on)

conv4\_block31\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block31\_2\_relu[0][0]']

)

conv4\_block31\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block31\_3\_conv[0][0]']

lization) )

conv4\_block31\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block30\_out[0][0]',

) 'conv4\_block31\_3\_bn[0][0]']

conv4\_block31\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block31\_add[0][0]']

)

conv4\_block32\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block31\_out[0][0]']

conv4\_block32\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block32\_1\_conv[0][0]']

lization)

conv4\_block32\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block32\_1\_bn[0][0]']

on)

conv4\_block32\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block32\_1\_relu[0][0]']

conv4\_block32\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block32\_2\_conv[0][0]']

lization)

conv4\_block32\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block32\_2\_bn[0][0]']

on)

conv4\_block32\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block32\_2\_relu[0][0]']

)

conv4\_block32\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block32\_3\_conv[0][0]']

lization) )

conv4\_block32\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block31\_out[0][0]',

) 'conv4\_block32\_3\_bn[0][0]']

conv4\_block32\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block32\_add[0][0]']

)

conv4\_block33\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block32\_out[0][0]']

conv4\_block33\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block33\_1\_conv[0][0]']

lization)

conv4\_block33\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block33\_1\_bn[0][0]']

on)

conv4\_block33\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block33\_1\_relu[0][0]']

conv4\_block33\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block33\_2\_conv[0][0]']

lization)

conv4\_block33\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block33\_2\_bn[0][0]']

on)

conv4\_block33\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block33\_2\_relu[0][0]']

)

conv4\_block33\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block33\_3\_conv[0][0]']

lization) )

conv4\_block33\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block32\_out[0][0]',

) 'conv4\_block33\_3\_bn[0][0]']

conv4\_block33\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block33\_add[0][0]']

)

conv4\_block34\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block33\_out[0][0]']

conv4\_block34\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block34\_1\_conv[0][0]']

lization)

conv4\_block34\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block34\_1\_bn[0][0]']

on)

conv4\_block34\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block34\_1\_relu[0][0]']

conv4\_block34\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block34\_2\_conv[0][0]']

lization)

conv4\_block34\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block34\_2\_bn[0][0]']

on)

conv4\_block34\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block34\_2\_relu[0][0]']

)

conv4\_block34\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block34\_3\_conv[0][0]']

lization) )

conv4\_block34\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block33\_out[0][0]',

) 'conv4\_block34\_3\_bn[0][0]']

conv4\_block34\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block34\_add[0][0]']

)

conv4\_block35\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block34\_out[0][0]']

conv4\_block35\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block35\_1\_conv[0][0]']

lization)

conv4\_block35\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block35\_1\_bn[0][0]']

on)

conv4\_block35\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block35\_1\_relu[0][0]']

conv4\_block35\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block35\_2\_conv[0][0]']

lization)

conv4\_block35\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block35\_2\_bn[0][0]']

on)

conv4\_block35\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block35\_2\_relu[0][0]']

)

conv4\_block35\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block35\_3\_conv[0][0]']

lization) )

conv4\_block35\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block34\_out[0][0]',

) 'conv4\_block35\_3\_bn[0][0]']

conv4\_block35\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block35\_add[0][0]']

)

conv4\_block36\_1\_conv (Conv2D) (None, 14, 14, 256) 262400 ['conv4\_block35\_out[0][0]']

conv4\_block36\_1\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block36\_1\_conv[0][0]']

lization)

conv4\_block36\_1\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block36\_1\_bn[0][0]']

on)

conv4\_block36\_2\_conv (Conv2D) (None, 14, 14, 256) 590080 ['conv4\_block36\_1\_relu[0][0]']

conv4\_block36\_2\_bn (BatchNorma (None, 14, 14, 256) 1024 ['conv4\_block36\_2\_conv[0][0]']

lization)

conv4\_block36\_2\_relu (Activati (None, 14, 14, 256) 0 ['conv4\_block36\_2\_bn[0][0]']

on)

conv4\_block36\_3\_conv (Conv2D) (None, 14, 14, 1024 263168 ['conv4\_block36\_2\_relu[0][0]']

)

conv4\_block36\_3\_bn (BatchNorma (None, 14, 14, 1024 4096 ['conv4\_block36\_3\_conv[0][0]']

lization) )

conv4\_block36\_add (Add) (None, 14, 14, 1024 0 ['conv4\_block35\_out[0][0]',

) 'conv4\_block36\_3\_bn[0][0]']

conv4\_block36\_out (Activation) (None, 14, 14, 1024 0 ['conv4\_block36\_add[0][0]']

)

conv5\_block1\_1\_conv (Conv2D) (None, 7, 7, 512) 524800 ['conv4\_block36\_out[0][0]']

conv5\_block1\_1\_bn (BatchNormal (None, 7, 7, 512) 2048 ['conv5\_block1\_1\_conv[0][0]']

ization)

conv5\_block1\_1\_relu (Activatio (None, 7, 7, 512) 0 ['conv5\_block1\_1\_bn[0][0]']

n)

conv5\_block1\_2\_conv (Conv2D) (None, 7, 7, 512) 2359808 ['conv5\_block1\_1\_relu[0][0]']

conv5\_block1\_2\_bn (BatchNormal (None, 7, 7, 512) 2048 ['conv5\_block1\_2\_conv[0][0]']

ization)

conv5\_block1\_2\_relu (Activatio (None, 7, 7, 512) 0 ['conv5\_block1\_2\_bn[0][0]']

n)

conv5\_block1\_0\_conv (Conv2D) (None, 7, 7, 2048) 2099200 ['conv4\_block36\_out[0][0]']

conv5\_block1\_3\_conv (Conv2D) (None, 7, 7, 2048) 1050624 ['conv5\_block1\_2\_relu[0][0]']

conv5\_block1\_0\_bn (BatchNormal (None, 7, 7, 2048) 8192 ['conv5\_block1\_0\_conv[0][0]']

ization)

conv5\_block1\_3\_bn (BatchNormal (None, 7, 7, 2048) 8192 ['conv5\_block1\_3\_conv[0][0]']

ization)

conv5\_block1\_add (Add) (None, 7, 7, 2048) 0 ['conv5\_block1\_0\_bn[0][0]',

'conv5\_block1\_3\_bn[0][0]']

conv5\_block1\_out (Activation) (None, 7, 7, 2048) 0 ['conv5\_block1\_add[0][0]']

conv5\_block2\_1\_conv (Conv2D) (None, 7, 7, 512) 1049088 ['conv5\_block1\_out[0][0]']

conv5\_block2\_1\_bn (BatchNormal (None, 7, 7, 512) 2048 ['conv5\_block2\_1\_conv[0][0]']

ization)

conv5\_block2\_1\_relu (Activatio (None, 7, 7, 512) 0 ['conv5\_block2\_1\_bn[0][0]']

n)

conv5\_block2\_2\_conv (Conv2D) (None, 7, 7, 512) 2359808 ['conv5\_block2\_1\_relu[0][0]']

conv5\_block2\_2\_bn (BatchNormal (None, 7, 7, 512) 2048 ['conv5\_block2\_2\_conv[0][0]']

ization)

conv5\_block2\_2\_relu (Activatio (None, 7, 7, 512) 0 ['conv5\_block2\_2\_bn[0][0]']

n)

conv5\_block2\_3\_conv (Conv2D) (None, 7, 7, 2048) 1050624 ['conv5\_block2\_2\_relu[0][0]']

conv5\_block2\_3\_bn (BatchNormal (None, 7, 7, 2048) 8192 ['conv5\_block2\_3\_conv[0][0]']

ization)

conv5\_block2\_add (Add) (None, 7, 7, 2048) 0 ['conv5\_block1\_out[0][0]',

'conv5\_block2\_3\_bn[0][0]']

conv5\_block2\_out (Activation) (None, 7, 7, 2048) 0 ['conv5\_block2\_add[0][0]']

conv5\_block3\_1\_conv (Conv2D) (None, 7, 7, 512) 1049088 ['conv5\_block2\_out[0][0]']

conv5\_block3\_1\_bn (BatchNormal (None, 7, 7, 512) 2048 ['conv5\_block3\_1\_conv[0][0]']

ization)

conv5\_block3\_1\_relu (Activatio (None, 7, 7, 512) 0 ['conv5\_block3\_1\_bn[0][0]']

n)

conv5\_block3\_2\_conv (Conv2D) (None, 7, 7, 512) 2359808 ['conv5\_block3\_1\_relu[0][0]']

conv5\_block3\_2\_bn (BatchNormal (None, 7, 7, 512) 2048 ['conv5\_block3\_2\_conv[0][0]']

ization)

conv5\_block3\_2\_relu (Activatio (None, 7, 7, 512) 0 ['conv5\_block3\_2\_bn[0][0]']

n)

conv5\_block3\_3\_conv (Conv2D) (None, 7, 7, 2048) 1050624 ['conv5\_block3\_2\_relu[0][0]']

conv5\_block3\_3\_bn (BatchNormal (None, 7, 7, 2048) 8192 ['conv5\_block3\_3\_conv[0][0]']

ization)

conv5\_block3\_add (Add) (None, 7, 7, 2048) 0 ['conv5\_block2\_out[0][0]',

'conv5\_block3\_3\_bn[0][0]']

conv5\_block3\_out (Activation) (None, 7, 7, 2048) 0 ['conv5\_block3\_add[0][0]']

flatten (Flatten) (None, 100352) 0 ['conv5\_block3\_out[0][0]']

dense (Dense) (None, 1) 100353 ['flatten[0][0]']

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

Total params: 58,471,297

Trainable params: 100,353

Non-trainable params: 58,370,944

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Epoch 1/100

55/55 [==============================] - 579s 10s/step - loss: 0.9252 - accuracy: 0.5622 - val\_loss: 0.5176 - val\_accuracy: 0.7396 - lr: 0.0010

Epoch 2/100

55/55 [==============================] - 44s 807ms/step - loss: 0.5246 - accuracy: 0.7143 - val\_loss: 0.4635 - val\_accuracy: 0.7949 - lr: 0.0010

Epoch 3/100

55/55 [==============================] - 44s 800ms/step - loss: 0.4571 - accuracy: 0.7679 - val\_loss: 0.4278 - val\_accuracy: 0.8111 - lr: 0.0010

Epoch 4/100

55/55 [==============================] - 43s 786ms/step - loss: 0.4302 - accuracy: 0.7817 - val\_loss: 0.4743 - val\_accuracy: 0.7535 - lr: 0.0010

Epoch 5/100

55/55 [==============================] - 44s 797ms/step - loss: 0.3705 - accuracy: 0.8439 - val\_loss: 0.3867 - val\_accuracy: 0.8203 - lr: 0.0010

Epoch 6/100

55/55 [==============================] - 43s 791ms/step - loss: 0.4146 - accuracy: 0.8024 - val\_loss: 0.4340 - val\_accuracy: 0.7765 - lr: 0.0010

Epoch 7/100

55/55 [==============================] - 43s 788ms/step - loss: 0.3488 - accuracy: 0.8410 - val\_loss: 0.4149 - val\_accuracy: 0.7995 - lr: 0.0010

Epoch 8/100

55/55 [==============================] - 44s 797ms/step - loss: 0.3671 - accuracy: 0.8295 - val\_loss: 0.3353 - val\_accuracy: 0.8710 - lr: 0.0010

Epoch 9/100

55/55 [==============================] - 43s 786ms/step - loss: 0.4341 - accuracy: 0.7811 - val\_loss: 0.4334 - val\_accuracy: 0.7765 - lr: 0.0010

Epoch 10/100

55/55 [==============================] - 43s 780ms/step - loss: 0.3003 - accuracy: 0.8756 - val\_loss: 0.3270 - val\_accuracy: 0.8618 - lr: 0.0010

Epoch 11/100

55/55 [==============================] - 43s 781ms/step - loss: 0.2776 - accuracy: 0.8831 - val\_loss: 0.3510 - val\_accuracy: 0.8387 - lr: 0.0010

Epoch 12/100

55/55 [==============================] - 43s 797ms/step - loss: 0.3019 - accuracy: 0.8646 - val\_loss: 0.3028 - val\_accuracy: 0.8848 - lr: 0.0010

Epoch 13/100

55/55 [==============================] - 43s 786ms/step - loss: 0.2726 - accuracy: 0.8957 - val\_loss: 0.3066 - val\_accuracy: 0.8710 - lr: 0.0010

Epoch 14/100

55/55 [==============================] - 43s 786ms/step - loss: 0.2671 - accuracy: 0.8957 - val\_loss: 0.2949 - val\_accuracy: 0.8825 - lr: 0.0010

Epoch 15/100

55/55 [==============================] - 42s 771ms/step - loss: 0.2665 - accuracy: 0.8992 - val\_loss: 0.3062 - val\_accuracy: 0.8618 - lr: 0.0010

Epoch 16/100

55/55 [==============================] - 43s 780ms/step - loss: 0.2964 - accuracy: 0.8704 - val\_loss: 0.2770 - val\_accuracy: 0.8963 - lr: 0.0010

Epoch 17/100

55/55 [==============================] - 43s 781ms/step - loss: 0.3604 - accuracy: 0.8387 - val\_loss: 0.2751 - val\_accuracy: 0.8848 - lr: 0.0010

Epoch 18/100

55/55 [==============================] - 43s 790ms/step - loss: 0.2582 - accuracy: 0.9021 - val\_loss: 0.3261 - val\_accuracy: 0.8571 - lr: 0.0010

Epoch 19/100

55/55 [==============================] - 44s 805ms/step - loss: 0.2377 - accuracy: 0.9078 - val\_loss: 0.2740 - val\_accuracy: 0.8940 - lr: 0.0010

Epoch 20/100

55/55 [==============================] - 43s 788ms/step - loss: 0.2651 - accuracy: 0.8871 - val\_loss: 0.3010 - val\_accuracy: 0.8594 - lr: 0.0010

Epoch 21/100

55/55 [==============================] - 43s 789ms/step - loss: 0.2798 - accuracy: 0.8733 - val\_loss: 0.2723 - val\_accuracy: 0.8871 - lr: 0.0010

Epoch 22/100

55/55 [==============================] - 44s 808ms/step - loss: 0.2225 - accuracy: 0.9199 - val\_loss: 0.4574 - val\_accuracy: 0.7788 - lr: 0.0010

Epoch 23/100

55/55 [==============================] - 45s 813ms/step - loss: 0.2310 - accuracy: 0.9032 - val\_loss: 0.2581 - val\_accuracy: 0.8986 - lr: 0.0010

Epoch 24/100

55/55 [==============================] - 44s 801ms/step - loss: 0.2133 - accuracy: 0.9159 - val\_loss: 0.2472 - val\_accuracy: 0.9078 - lr: 0.0010

Epoch 25/100

55/55 [==============================] - 43s 789ms/step - loss: 0.2142 - accuracy: 0.9165 - val\_loss: 0.2573 - val\_accuracy: 0.8894 - lr: 0.0010

Epoch 26/100

55/55 [==============================] - 44s 792ms/step - loss: 0.2249 - accuracy: 0.9038 - val\_loss: 0.2810 - val\_accuracy: 0.8710 - lr: 0.0010

Epoch 27/100

55/55 [==============================] - 44s 796ms/step - loss: 0.2488 - accuracy: 0.8854 - val\_loss: 0.2402 - val\_accuracy: 0.9055 - lr: 0.0010

Epoch 28/100

55/55 [==============================] - 43s 772ms/step - loss: 0.2008 - accuracy: 0.9222 - val\_loss: 0.4574 - val\_accuracy: 0.7788 - lr: 0.0010

Epoch 29/100

55/55 [==============================] - 44s 793ms/step - loss: 0.2088 - accuracy: 0.9153 - val\_loss: 0.2931 - val\_accuracy: 0.8641 - lr: 0.0010

Epoch 30/100

55/55 [==============================] - 44s 793ms/step - loss: 0.2121 - accuracy: 0.9136 - val\_loss: 0.2323 - val\_accuracy: 0.9124 - lr: 0.0010

Epoch 31/100

55/55 [==============================] - 44s 773ms/step - loss: 0.1835 - accuracy: 0.9326 - val\_loss: 0.2818 - val\_accuracy: 0.8664 - lr: 0.0010

Epoch 32/100

55/55 [==============================] - 43s 789ms/step - loss: 0.2346 - accuracy: 0.8952 - val\_loss: 0.2408 - val\_accuracy: 0.9078 - lr: 0.0010

Epoch 33/100

55/55 [==============================] - 44s 794ms/step - loss: 0.2255 - accuracy: 0.9055 - val\_loss: 0.3889 - val\_accuracy: 0.8134 - lr: 0.0010

Epoch 34/100

55/55 [==============================] - 43s 784ms/step - loss: 0.1788 - accuracy: 0.9315 - val\_loss: 0.2275 - val\_accuracy: 0.9032 - lr: 1.0000e-04

Epoch 35/100

55/55 [==============================] - 44s 794ms/step - loss: 0.1627 - accuracy: 0.9464 - val\_loss: 0.2255 - val\_accuracy: 0.9055 - lr: 1.0000e-04

Epoch 36/100

55/55 [==============================] - 44s 794ms/step - loss: 0.1698 - accuracy: 0.9447 - val\_loss: 0.2332 - val\_accuracy: 0.9124 - lr: 1.0000e-04

Epoch 37/100

55/55 [==============================] - 43s 776ms/step - loss: 0.1657 - accuracy: 0.9464 - val\_loss: 0.2296 - val\_accuracy: 0.9171 - lr: 1.0000e-04

Epoch 38/100

55/55 [==============================] - 43s 783ms/step - loss: 0.1657 - accuracy: 0.9482 - val\_loss: 0.2278 - val\_accuracy: 0.9171 - lr: 1.0000e-04

Epoch 39/100

55/55 [==============================] - 43s 780ms/step - loss: 0.1598 - accuracy: 0.9551 - val\_loss: 0.2248 - val\_accuracy: 0.9055 - lr: 1.0000e-05

Epoch 40/100

55/55 [==============================] - 43s 791ms/step - loss: 0.1588 - accuracy: 0.9539 - val\_loss: 0.2230 - val\_accuracy: 0.9078 - lr: 1.0000e-05

Epoch 41/100

55/55 [==============================] - 43s 780ms/step - loss: 0.1588 - accuracy: 0.9545 - val\_loss: 0.2238 - val\_accuracy: 0.9055 - lr: 1.0000e-05

Epoch 42/100

55/55 [==============================] - 43s 773ms/step - loss: 0.1591 - accuracy: 0.9551 - val\_loss: 0.2240 - val\_accuracy: 0.9055 - lr: 1.0000e-05

Epoch 43/100

55/55 [==============================] - 43s 778ms/step - loss: 0.1590 - accuracy: 0.9568 - val\_loss: 0.2247 - val\_accuracy: 0.9055 - lr: 1.0000e-05

Epoch 44/100

55/55 [==============================] - 43s 774ms/step - loss: 0.1588 - accuracy: 0.9539 - val\_loss: 0.2243 - val\_accuracy: 0.9055 - lr: 1.0000e-06

Epoch 45/100

55/55 [==============================] - 43s 785ms/step - loss: 0.1587 - accuracy: 0.9539 - val\_loss: 0.2240 - val\_accuracy: 0.9055 - lr: 1.0000e-06

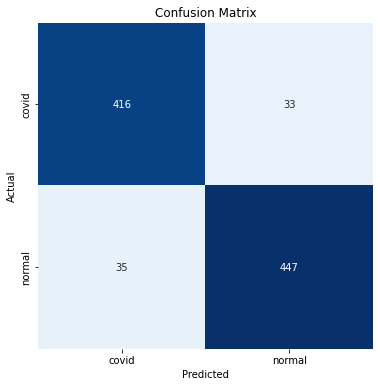
INFO:tensorflow:Assets written to: /content/drive/MyDrive/ResNet152Split0.7noAug/assets

Test Loss: 0.22813

Test Accuracy: 92.70%

/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:

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

precision recall f1-score support

covid 0.92 0.93 0.92 449

normal 0.93 0.93 0.93 482

accuracy 0.93 931

macro avg 0.93 0.93 0.93 931

weighted avg 0.93 0.93 0.93 931

