# Model Metrics

## ResNet

Model: "model\_18"

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

Layer (type) Output Shape Param # Connected to

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

input\_2 (InputLayer) [(None, 200, 200, 3 0 []

)]

conv1\_pad (ZeroPadding2D) (None, 206, 206, 3) 0 ['input\_2[0][0]']

conv1\_conv (Conv2D) (None, 100, 100, 64 9472 ['conv1\_pad[0][0]']

)

conv1\_bn (BatchNormalization) (None, 100, 100, 64 256 ['conv1\_conv[0][0]']

)

conv1\_relu (Activation) (None, 100, 100, 64 0 ['conv1\_bn[0][0]']

)

pool1\_pad (ZeroPadding2D) (None, 102, 102, 64 0 ['conv1\_relu[0][0]']

)

pool1\_pool (MaxPooling2D) (None, 50, 50, 64) 0 ['pool1\_pad[0][0]']

conv2\_block1\_1\_conv (Conv2D) (None, 50, 50, 64) 4160 ['pool1\_pool[0][0]']

conv2\_block1\_1\_bn (BatchNormal (None, 50, 50, 64) 256 ['conv2\_block1\_1\_conv[0][0]']

ization)

conv2\_block1\_1\_relu (Activatio (None, 50, 50, 64) 0 ['conv2\_block1\_1\_bn[0][0]']

n)

conv2\_block1\_2\_conv (Conv2D) (None, 50, 50, 64) 36928 ['conv2\_block1\_1\_relu[0][0]']

conv2\_block1\_2\_bn (BatchNormal (None, 50, 50, 64) 256 ['conv2\_block1\_2\_conv[0][0]']

ization)

conv2\_block1\_2\_relu (Activatio (None, 50, 50, 64) 0 ['conv2\_block1\_2\_bn[0][0]']

n)

conv2\_block1\_0\_conv (Conv2D) (None, 50, 50, 256) 16640 ['pool1\_pool[0][0]']

conv2\_block1\_3\_conv (Conv2D) (None, 50, 50, 256) 16640 ['conv2\_block1\_2\_relu[0][0]']

conv2\_block1\_0\_bn (BatchNormal (None, 50, 50, 256) 1024 ['conv2\_block1\_0\_conv[0][0]']

ization)

conv2\_block1\_3\_bn (BatchNormal (None, 50, 50, 256) 1024 ['conv2\_block1\_3\_conv[0][0]']

ization)

conv2\_block1\_add (Add) (None, 50, 50, 256) 0 ['conv2\_block1\_0\_bn[0][0]',

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

conv2\_block1\_out (Activation) (None, 50, 50, 256) 0 ['conv2\_block1\_add[0][0]']

conv2\_block2\_1\_conv (Conv2D) (None, 50, 50, 64) 16448 ['conv2\_block1\_out[0][0]']

conv2\_block2\_1\_bn (BatchNormal (None, 50, 50, 64) 256 ['conv2\_block2\_1\_conv[0][0]']

ization)

conv2\_block2\_1\_relu (Activatio (None, 50, 50, 64) 0 ['conv2\_block2\_1\_bn[0][0]']

n)

conv2\_block2\_2\_conv (Conv2D) (None, 50, 50, 64) 36928 ['conv2\_block2\_1\_relu[0][0]']

conv2\_block2\_2\_bn (BatchNormal (None, 50, 50, 64) 256 ['conv2\_block2\_2\_conv[0][0]']

ization)

conv2\_block2\_2\_relu (Activatio (None, 50, 50, 64) 0 ['conv2\_block2\_2\_bn[0][0]']

n)

conv2\_block2\_3\_conv (Conv2D) (None, 50, 50, 256) 16640 ['conv2\_block2\_2\_relu[0][0]']

conv2\_block2\_3\_bn (BatchNormal (None, 50, 50, 256) 1024 ['conv2\_block2\_3\_conv[0][0]']

ization)

conv2\_block2\_add (Add) (None, 50, 50, 256) 0 ['conv2\_block1\_out[0][0]',

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

conv2\_block2\_out (Activation) (None, 50, 50, 256) 0 ['conv2\_block2\_add[0][0]']

conv2\_block3\_1\_conv (Conv2D) (None, 50, 50, 64) 16448 ['conv2\_block2\_out[0][0]']

conv2\_block3\_1\_bn (BatchNormal (None, 50, 50, 64) 256 ['conv2\_block3\_1\_conv[0][0]']

ization)

conv2\_block3\_1\_relu (Activatio (None, 50, 50, 64) 0 ['conv2\_block3\_1\_bn[0][0]']

n)

conv2\_block3\_2\_conv (Conv2D) (None, 50, 50, 64) 36928 ['conv2\_block3\_1\_relu[0][0]']

conv2\_block3\_2\_bn (BatchNormal (None, 50, 50, 64) 256 ['conv2\_block3\_2\_conv[0][0]']

ization)

conv2\_block3\_2\_relu (Activatio (None, 50, 50, 64) 0 ['conv2\_block3\_2\_bn[0][0]']

n)

conv2\_block3\_3\_conv (Conv2D) (None, 50, 50, 256) 16640 ['conv2\_block3\_2\_relu[0][0]']

conv2\_block3\_3\_bn (BatchNormal (None, 50, 50, 256) 1024 ['conv2\_block3\_3\_conv[0][0]']

ization)

conv2\_block3\_add (Add) (None, 50, 50, 256) 0 ['conv2\_block2\_out[0][0]',

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

conv2\_block3\_out (Activation) (None, 50, 50, 256) 0 ['conv2\_block3\_add[0][0]']

conv3\_block1\_1\_conv (Conv2D) (None, 25, 25, 128) 32896 ['conv2\_block3\_out[0][0]']

conv3\_block1\_1\_bn (BatchNormal (None, 25, 25, 128) 512 ['conv3\_block1\_1\_conv[0][0]']

ization)

conv3\_block1\_1\_relu (Activatio (None, 25, 25, 128) 0 ['conv3\_block1\_1\_bn[0][0]']

n)

conv3\_block1\_2\_conv (Conv2D) (None, 25, 25, 128) 147584 ['conv3\_block1\_1\_relu[0][0]']

conv3\_block1\_2\_bn (BatchNormal (None, 25, 25, 128) 512 ['conv3\_block1\_2\_conv[0][0]']

ization)

conv3\_block1\_2\_relu (Activatio (None, 25, 25, 128) 0 ['conv3\_block1\_2\_bn[0][0]']

n)

conv3\_block1\_0\_conv (Conv2D) (None, 25, 25, 512) 131584 ['conv2\_block3\_out[0][0]']

conv3\_block1\_3\_conv (Conv2D) (None, 25, 25, 512) 66048 ['conv3\_block1\_2\_relu[0][0]']

conv3\_block1\_0\_bn (BatchNormal (None, 25, 25, 512) 2048 ['conv3\_block1\_0\_conv[0][0]']

ization)

conv3\_block1\_3\_bn (BatchNormal (None, 25, 25, 512) 2048 ['conv3\_block1\_3\_conv[0][0]']

ization)

conv3\_block1\_add (Add) (None, 25, 25, 512) 0 ['conv3\_block1\_0\_bn[0][0]',

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

conv3\_block1\_out (Activation) (None, 25, 25, 512) 0 ['conv3\_block1\_add[0][0]']

conv3\_block2\_1\_conv (Conv2D) (None, 25, 25, 128) 65664 ['conv3\_block1\_out[0][0]']

conv3\_block2\_1\_bn (BatchNormal (None, 25, 25, 128) 512 ['conv3\_block2\_1\_conv[0][0]']

ization)

conv3\_block2\_1\_relu (Activatio (None, 25, 25, 128) 0 ['conv3\_block2\_1\_bn[0][0]']

n)

conv3\_block2\_2\_conv (Conv2D) (None, 25, 25, 128) 147584 ['conv3\_block2\_1\_relu[0][0]']

conv3\_block2\_2\_bn (BatchNormal (None, 25, 25, 128) 512 ['conv3\_block2\_2\_conv[0][0]']

ization)

conv3\_block2\_2\_relu (Activatio (None, 25, 25, 128) 0 ['conv3\_block2\_2\_bn[0][0]']

n)

conv3\_block2\_3\_conv (Conv2D) (None, 25, 25, 512) 66048 ['conv3\_block2\_2\_relu[0][0]']

conv3\_block2\_3\_bn (BatchNormal (None, 25, 25, 512) 2048 ['conv3\_block2\_3\_conv[0][0]']

ization)

conv3\_block2\_add (Add) (None, 25, 25, 512) 0 ['conv3\_block1\_out[0][0]',

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

conv3\_block2\_out (Activation) (None, 25, 25, 512) 0 ['conv3\_block2\_add[0][0]']

conv3\_block3\_1\_conv (Conv2D) (None, 25, 25, 128) 65664 ['conv3\_block2\_out[0][0]']

conv3\_block3\_1\_bn (BatchNormal (None, 25, 25, 128) 512 ['conv3\_block3\_1\_conv[0][0]']

ization)

conv3\_block3\_1\_relu (Activatio (None, 25, 25, 128) 0 ['conv3\_block3\_1\_bn[0][0]']

n)

conv3\_block3\_2\_conv (Conv2D) (None, 25, 25, 128) 147584 ['conv3\_block3\_1\_relu[0][0]']

conv3\_block3\_2\_bn (BatchNormal (None, 25, 25, 128) 512 ['conv3\_block3\_2\_conv[0][0]']

ization)

conv3\_block3\_2\_relu (Activatio (None, 25, 25, 128) 0 ['conv3\_block3\_2\_bn[0][0]']

n)

conv3\_block3\_3\_conv (Conv2D) (None, 25, 25, 512) 66048 ['conv3\_block3\_2\_relu[0][0]']

conv3\_block3\_3\_bn (BatchNormal (None, 25, 25, 512) 2048 ['conv3\_block3\_3\_conv[0][0]']

ization)

conv3\_block3\_add (Add) (None, 25, 25, 512) 0 ['conv3\_block2\_out[0][0]',

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

conv3\_block3\_out (Activation) (None, 25, 25, 512) 0 ['conv3\_block3\_add[0][0]']

conv3\_block4\_1\_conv (Conv2D) (None, 25, 25, 128) 65664 ['conv3\_block3\_out[0][0]']

conv3\_block4\_1\_bn (BatchNormal (None, 25, 25, 128) 512 ['conv3\_block4\_1\_conv[0][0]']

ization)

conv3\_block4\_1\_relu (Activatio (None, 25, 25, 128) 0 ['conv3\_block4\_1\_bn[0][0]']

n)

conv3\_block4\_2\_conv (Conv2D) (None, 25, 25, 128) 147584 ['conv3\_block4\_1\_relu[0][0]']

conv3\_block4\_2\_bn (BatchNormal (None, 25, 25, 128) 512 ['conv3\_block4\_2\_conv[0][0]']

ization)

conv3\_block4\_2\_relu (Activatio (None, 25, 25, 128) 0 ['conv3\_block4\_2\_bn[0][0]']

n)

conv3\_block4\_3\_conv (Conv2D) (None, 25, 25, 512) 66048 ['conv3\_block4\_2\_relu[0][0]']

conv3\_block4\_3\_bn (BatchNormal (None, 25, 25, 512) 2048 ['conv3\_block4\_3\_conv[0][0]']

ization)

conv3\_block4\_add (Add) (None, 25, 25, 512) 0 ['conv3\_block3\_out[0][0]',

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

conv3\_block4\_out (Activation) (None, 25, 25, 512) 0 ['conv3\_block4\_add[0][0]']

conv4\_block1\_1\_conv (Conv2D) (None, 13, 13, 256) 131328 ['conv3\_block4\_out[0][0]']

conv4\_block1\_1\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block1\_1\_conv[0][0]']

ization)

conv4\_block1\_1\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block1\_1\_bn[0][0]']

n)

conv4\_block1\_2\_conv (Conv2D) (None, 13, 13, 256) 590080 ['conv4\_block1\_1\_relu[0][0]']

conv4\_block1\_2\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block1\_2\_conv[0][0]']

ization)

conv4\_block1\_2\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block1\_2\_bn[0][0]']

n)

conv4\_block1\_0\_conv (Conv2D) (None, 13, 13, 1024 525312 ['conv3\_block4\_out[0][0]']

)

conv4\_block1\_3\_conv (Conv2D) (None, 13, 13, 1024 263168 ['conv4\_block1\_2\_relu[0][0]']

)

conv4\_block1\_0\_bn (BatchNormal (None, 13, 13, 1024 4096 ['conv4\_block1\_0\_conv[0][0]']

ization) )

conv4\_block1\_3\_bn (BatchNormal (None, 13, 13, 1024 4096 ['conv4\_block1\_3\_conv[0][0]']

ization) )

conv4\_block1\_add (Add) (None, 13, 13, 1024 0 ['conv4\_block1\_0\_bn[0][0]',

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

conv4\_block1\_out (Activation) (None, 13, 13, 1024 0 ['conv4\_block1\_add[0][0]']

)

conv4\_block2\_1\_conv (Conv2D) (None, 13, 13, 256) 262400 ['conv4\_block1\_out[0][0]']

conv4\_block2\_1\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block2\_1\_conv[0][0]']

ization)

conv4\_block2\_1\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block2\_1\_bn[0][0]']

n)

conv4\_block2\_2\_conv (Conv2D) (None, 13, 13, 256) 590080 ['conv4\_block2\_1\_relu[0][0]']

conv4\_block2\_2\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block2\_2\_conv[0][0]']

ization)

conv4\_block2\_2\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block2\_2\_bn[0][0]']

n)

conv4\_block2\_3\_conv (Conv2D) (None, 13, 13, 1024 263168 ['conv4\_block2\_2\_relu[0][0]']

)

conv4\_block2\_3\_bn (BatchNormal (None, 13, 13, 1024 4096 ['conv4\_block2\_3\_conv[0][0]']

ization) )

conv4\_block2\_add (Add) (None, 13, 13, 1024 0 ['conv4\_block1\_out[0][0]',

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

conv4\_block2\_out (Activation) (None, 13, 13, 1024 0 ['conv4\_block2\_add[0][0]']

)

conv4\_block3\_1\_conv (Conv2D) (None, 13, 13, 256) 262400 ['conv4\_block2\_out[0][0]']

conv4\_block3\_1\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block3\_1\_conv[0][0]']

ization)

conv4\_block3\_1\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block3\_1\_bn[0][0]']

n)

conv4\_block3\_2\_conv (Conv2D) (None, 13, 13, 256) 590080 ['conv4\_block3\_1\_relu[0][0]']

conv4\_block3\_2\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block3\_2\_conv[0][0]']

ization)

conv4\_block3\_2\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block3\_2\_bn[0][0]']

n)

conv4\_block3\_3\_conv (Conv2D) (None, 13, 13, 1024 263168 ['conv4\_block3\_2\_relu[0][0]']

)

conv4\_block3\_3\_bn (BatchNormal (None, 13, 13, 1024 4096 ['conv4\_block3\_3\_conv[0][0]']

ization) )

conv4\_block3\_add (Add) (None, 13, 13, 1024 0 ['conv4\_block2\_out[0][0]',

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

conv4\_block3\_out (Activation) (None, 13, 13, 1024 0 ['conv4\_block3\_add[0][0]']

)

conv4\_block4\_1\_conv (Conv2D) (None, 13, 13, 256) 262400 ['conv4\_block3\_out[0][0]']

conv4\_block4\_1\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block4\_1\_conv[0][0]']

ization)

conv4\_block4\_1\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block4\_1\_bn[0][0]']

n)

conv4\_block4\_2\_conv (Conv2D) (None, 13, 13, 256) 590080 ['conv4\_block4\_1\_relu[0][0]']

conv4\_block4\_2\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block4\_2\_conv[0][0]']

ization)

conv4\_block4\_2\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block4\_2\_bn[0][0]']

n)

conv4\_block4\_3\_conv (Conv2D) (None, 13, 13, 1024 263168 ['conv4\_block4\_2\_relu[0][0]']

)

conv4\_block4\_3\_bn (BatchNormal (None, 13, 13, 1024 4096 ['conv4\_block4\_3\_conv[0][0]']

ization) )

conv4\_block4\_add (Add) (None, 13, 13, 1024 0 ['conv4\_block3\_out[0][0]',

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

conv4\_block4\_out (Activation) (None, 13, 13, 1024 0 ['conv4\_block4\_add[0][0]']

)

conv4\_block5\_1\_conv (Conv2D) (None, 13, 13, 256) 262400 ['conv4\_block4\_out[0][0]']

conv4\_block5\_1\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block5\_1\_conv[0][0]']

ization)

conv4\_block5\_1\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block5\_1\_bn[0][0]']

n)

conv4\_block5\_2\_conv (Conv2D) (None, 13, 13, 256) 590080 ['conv4\_block5\_1\_relu[0][0]']

conv4\_block5\_2\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block5\_2\_conv[0][0]']

ization)

conv4\_block5\_2\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block5\_2\_bn[0][0]']

n)

conv4\_block5\_3\_conv (Conv2D) (None, 13, 13, 1024 263168 ['conv4\_block5\_2\_relu[0][0]']

)

conv4\_block5\_3\_bn (BatchNormal (None, 13, 13, 1024 4096 ['conv4\_block5\_3\_conv[0][0]']

ization) )

conv4\_block5\_add (Add) (None, 13, 13, 1024 0 ['conv4\_block4\_out[0][0]',

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

conv4\_block5\_out (Activation) (None, 13, 13, 1024 0 ['conv4\_block5\_add[0][0]']

)

conv4\_block6\_1\_conv (Conv2D) (None, 13, 13, 256) 262400 ['conv4\_block5\_out[0][0]']

conv4\_block6\_1\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block6\_1\_conv[0][0]']

ization)

conv4\_block6\_1\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block6\_1\_bn[0][0]']

n)

conv4\_block6\_2\_conv (Conv2D) (None, 13, 13, 256) 590080 ['conv4\_block6\_1\_relu[0][0]']

conv4\_block6\_2\_bn (BatchNormal (None, 13, 13, 256) 1024 ['conv4\_block6\_2\_conv[0][0]']

ization)

conv4\_block6\_2\_relu (Activatio (None, 13, 13, 256) 0 ['conv4\_block6\_2\_bn[0][0]']

n)

conv4\_block6\_3\_conv (Conv2D) (None, 13, 13, 1024 263168 ['conv4\_block6\_2\_relu[0][0]']

)

conv4\_block6\_3\_bn (BatchNormal (None, 13, 13, 1024 4096 ['conv4\_block6\_3\_conv[0][0]']

ization) )

conv4\_block6\_add (Add) (None, 13, 13, 1024 0 ['conv4\_block5\_out[0][0]',

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

conv4\_block6\_out (Activation) (None, 13, 13, 1024 0 ['conv4\_block6\_add[0][0]']

)

conv5\_block1\_1\_conv (Conv2D) (None, 7, 7, 512) 524800 ['conv4\_block6\_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\_block6\_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\_5 (Flatten) (None, 100352) 0 ['conv5\_block3\_out[0][0]']

dense\_42 (Dense) (None, 512) 51380736 ['flatten\_5[0][0]']

dense\_43 (Dense) (None, 6) 3078 ['dense\_42[0][0]']

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

Total params: 74,971,526

Trainable params: 51,383,814

Non-trainable params: 23,587,712

## CNN

Model: "sequential\_2"

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Layer (type) Output Shape Param #

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

conv2d\_6 (Conv2D) (None, 198, 198, 32) 320

max\_pooling2d\_7 (MaxPooling (None, 99, 99, 32) 0

2D)

conv2d\_7 (Conv2D) (None, 97, 97, 64) 18496

max\_pooling2d\_8 (MaxPooling (None, 48, 48, 64) 0

2D)

conv2d\_8 (Conv2D) (None, 46, 46, 64) 36928

max\_pooling2d\_9 (MaxPooling (None, 23, 23, 64) 0

2D)

flatten\_2 (Flatten) (None, 33856) 0

dense\_22 (Dense) (None, 64) 2166848

dense\_23 (Dense) (None, 6) 390

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

Total params: 2,222,982

Trainable params: 2,222,982

Non-trainable params: 0

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## CNN Metrics

Confusion matrix:

A graph with blue squares and white text

Description automatically generated

Classification Report

A table of numbers with black text

Description automatically generated