Model 1

Model: "model"

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

Layer (type) Output Shape Param #

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

input\_1 (InputLayer) [(None, 128, 128, 3)] 0

conv2d (Conv2D) (None, 128, 128, 32) 896

max\_pooling2d (MaxPooling2D (None, 64, 64, 32) 0

)

conv2d\_1 (Conv2D) (None, 64, 64, 32) 9248

max\_pooling2d\_1 (MaxPooling (None, 32, 32, 32) 0

2D)

conv2d\_2 (Conv2D) (None, 32, 32, 32) 9248

max\_pooling2d\_2 (MaxPooling (None, 16, 16, 32) 0

2D)

conv2d\_3 (Conv2D) (None, 16, 16, 16) 4624

max\_pooling2d\_3 (MaxPooling (None, 8, 8, 16) 0

2D)

flatten (Flatten) (None, 1024) 0

reshape (Reshape) (None, 32, 32) 0

lstm (LSTM) (None, 64) 24832

dense (Dense) (None, 30) 1950

dense\_1 (Dense) (None, 20) 620

dense\_2 (Dense) (None, 4) 84

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

Total params: 51,502

Trainable params: 51,502

Non-trainable params: 0

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Model 2

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

Layer (type) Output Shape Param #

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

input\_2 (InputLayer) [(None, 128, 128, 3)] 0

conv2d\_4 (Conv2D) (None, 128, 128, 32) 896

max\_pooling2d\_4 (MaxPooling (None, 64, 64, 32) 0

2D)

conv2d\_5 (Conv2D) (None, 64, 64, 32) 9248

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

2D)

conv2d\_6 (Conv2D) (None, 32, 32, 32) 9248

max\_pooling2d\_6 (MaxPooling (None, 16, 16, 32) 0

2D)

conv2d\_7 (Conv2D) (None, 16, 16, 16) 4624

max\_pooling2d\_7 (MaxPooling (None, 8, 8, 16) 0

2D)

flatten\_1 (Flatten) (None, 1024) 0

reshape\_1 (Reshape) (None, 32, 32) 0

lstm\_1 (LSTM) (None, 64) 24832

dense\_3 (Dense) (None, 50) 3250

dense\_4 (Dense) (None, 50) 2550

dense\_5 (Dense) (None, 4) 204

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

Total params: 54,852

Trainable params: 54,852

Non-trainable params: 0

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Model 3

Model: "model\_3"

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Layer (type) Output Shape Param #

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

input\_4 (InputLayer) [(None, 128, 128, 3)] 0

conv2d\_12 (Conv2D) (None, 128, 128, 32) 896

max\_pooling2d\_12 (MaxPoolin (None, 64, 64, 32) 0

g2D)

conv2d\_13 (Conv2D) (None, 64, 64, 32) 9248

max\_pooling2d\_13 (MaxPoolin (None, 32, 32, 32) 0

g2D)

conv2d\_14 (Conv2D) (None, 32, 32, 32) 9248

max\_pooling2d\_14 (MaxPoolin (None, 16, 16, 32) 0

g2D)

conv2d\_15 (Conv2D) (None, 16, 16, 16) 4624

max\_pooling2d\_15 (MaxPoolin (None, 8, 8, 16) 0

g2D)

flatten\_3 (Flatten) (None, 1024) 0

reshape\_3 (Reshape) (None, 32, 32) 0

lstm\_3 (LSTM) (None, 64) 24832

dense\_9 (Dense) (None, 30) 1950

dense\_10 (Dense) (None, 30) 930

dense\_11 (Dense) (None, 20) 620

dense\_12 (Dense) (None, 4) 84

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

Total params: 52,432

Trainable params: 52,432

Non-trainable params: 0

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