Model 1 Structure :

Model: "sequential"

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Layer (type) Output Shape Param #

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

conv2d (Conv2D) (None, 30, 30, 32) 896

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

max\_pooling2d (MaxPooling2D) (None, 15, 15, 32) 0

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

conv2d\_1 (Conv2D) (None, 13, 13, 64) 18496

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max\_pooling2d\_1 (MaxPooling2 (None, 6, 6, 64) 0

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conv2d\_2 (Conv2D) (None, 4, 4, 64) 36928

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flatten (Flatten) (None, 1024) 0

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dense (Dense) (None, 64) 65600

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dense\_1 (Dense) (None, 10) 650

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

Total params: 122,570

Trainable params: 122,570

Non-trainable params: 0

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

Model 2 Structure :

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

Layer (type) Output Shape Param #

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

conv2d\_1 (Conv2D) (None, 32, 32, 32) 896

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

conv2d\_2 (Conv2D) (None, 30, 30, 32) 9248

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max\_pooling2d\_1 (MaxPooling2 (None, 15, 15, 32) 0

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

dropout\_1 (Dropout) (None, 15, 15, 32) 0

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

conv2d\_3 (Conv2D) (None, 15, 15, 64) 18496

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

conv2d\_4 (Conv2D) (None, 13, 13, 64) 36928

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max\_pooling2d\_2 (MaxPooling2 (None, 6, 6, 64) 0

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

dropout\_2 (Dropout) (None, 6, 6, 64) 0

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conv2d\_5 (Conv2D) (None, 6, 6, 64) 36928

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conv2d\_6 (Conv2D) (None, 4, 4, 64) 36928

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max\_pooling2d\_3 (MaxPooling2 (None, 2, 2, 64) 0

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

dropout\_3 (Dropout) (None, 2, 2, 64) 0

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

flatten\_1 (Flatten) (None, 256) 0

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dense\_1 (Dense) (None, 512) 131584

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dropout\_4 (Dropout) (None, 512) 0

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dense\_2 (Dense) (None, 10) 5130

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Total params: 276,138

Trainable params: 276,138

Non-trainable params: 0

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Model 3 Structure:

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Layer (type) Output Shape Param #

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conv2d\_33 (Conv2D) (None, 30, 30, 32) 896

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max\_pooling2d\_28 (MaxPooling (None, 15, 15, 32) 0

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dropout\_26 (Dropout) (None, 15, 15, 32) 0

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conv2d\_34 (Conv2D) (None, 13, 13, 64) 18496

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max\_pooling2d\_29 (MaxPooling (None, 6, 6, 64) 0

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dropout\_27 (Dropout) (None, 6, 6, 64) 0

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

conv2d\_35 (Conv2D) (None, 4, 4, 64) 36928

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max\_pooling2d\_30 (MaxPooling (None, 4, 4, 64) 0

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dropout\_28 (Dropout) (None, 4, 4, 64) 0

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

conv2d\_36 (Conv2D) (None, 4, 4, 64) 4160

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max\_pooling2d\_31 (MaxPooling (None, 4, 4, 64) 0

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dropout\_29 (Dropout) (None, 4, 4, 64) 0

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flatten\_6 (Flatten) (None, 1024) 0

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dense\_13 (Dense) (None, 512) 524800

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dense\_14 (Dense) (None, 256) 131328

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dense\_15 (Dense) (None, 10) 2570

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Total params: 719,178

Trainable params: 719,178

Non-trainable params: 0

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