Final model structure and its parameters:

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Layer (type) Output Shape Param #

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1 input\_1 (InputLayer) (None, 300, 300, 3) 0

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2 conv2d\_1 (Conv2D) (None, 300, 300, 32) 896

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3 activation\_1 (Activation) (None, 300, 300, 32) 0

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4 max\_pooling2d\_1 (MaxPooling2 (None, 150, 150, 32) 0

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5 conv2d\_2 (Conv2D) (None, 150, 150, 64) 18496

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6 activation\_2 (Activation) (None, 150, 150, 64) 0

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7 max\_pooling2d\_2 (MaxPooling2 (None, 75, 75, 64) 0

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8 conv2d\_3 (Conv2D) (None, 75, 75, 64) 36928

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9 activation\_3 (Activation) (None, 75, 75, 64) 0

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10 max\_pooling2d\_3 (MaxPooling2 (None, 37, 37, 64) 0

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11 conv2d\_4 (Conv2D) (None, 37, 37, 128) 73856

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12 activation\_4 (Activation) (None, 37, 37, 128) 0

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13 max\_pooling2d\_4 (MaxPooling2 (None, 18, 18, 128) 0

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14 conv2d\_5 (Conv2D) (None, 18, 18, 128) 147584

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15 activation\_5 (Activation) (None, 18, 18, 128) 0

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16 max\_pooling2d\_5 (MaxPooling2 (None, 9, 9, 128) 0

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17 conv2d\_6 (Conv2D) (None, 9, 9, 256) 295168

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18 activation\_6 (Activation) (None, 9, 9, 256) 0

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19 max\_pooling2d\_6 (MaxPooling2 (None, 4, 4, 256) 0

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20 conv2d\_7 (Conv2D) (None, 4, 4, 256) 590080

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21 batch\_normalization\_1 (Batch (None, 4, 4, 256) 1024

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22 activation\_7 (Activation) (None, 4, 4, 256) 0

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23 max\_pooling2d\_7 (MaxPooling2 (None, 2, 2, 256) 0

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

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25 dense\_1 (Dense) (None, 500) 512500

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26 dense\_2 (Dense) (None, 100) 50100

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27 dense\_3 (Dense) (None, 4) 404

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Total params: 1,727,036

Trainable params: 1,726,524

Non-trainable params: 512