

Layer (type)	Output Shape	Param #	Connected to
input_layer_2 (InputLayer)	(None, 300, 300, 3)	0	-
conv1_pad (ZeroPadding2D)	(None, 306, 306, 3)	0	input_layer_2[0]...
conv1_conv (Conv2D)	(None, 150, 150, 64)	9,472	conv1_pad[0][0]
pool1_pad (ZeroPadding2D)	(None, 152, 152, 64)	0	conv1_conv[0][0]
pool1_pool (MaxPooling2D)	(None, 75, 75, 64)	0	pool1_pad[0][0]
conv2_block1_preac... (BatchNormalizatio...	(None, 75, 75, 64)	256	pool1_pool[0][0]
conv2_block1_preac... (Activation)	(None, 75, 75, 64)	0	conv2_block1_pre...
conv2_block1_1_conv (Conv2D)	(None, 75, 75, 64)	4,096	conv2_block1_pre...
conv2_block1_1_bn (BatchNormalizatio...	(None, 75, 75, 64)	256	conv2_block1_1_c...
conv2_block1_1_relu (Activation)	(None, 75, 75, 64)	0	conv2_block1_1_b...
conv2_block1_2_pad (ZeroPadding2D)	(None, 77, 77, 64)	0	conv2_block1_1_r...
conv2_block1_2_conv (Conv2D)	(None, 75, 75, 64)	36,864	conv2_block1_2_p...
conv2_block1_2_bn (BatchNormalizatio...	(None, 75, 75, 64)	256	conv2_block1_2_c...
conv2_block1_2_relu (Activation)	(None, 75, 75, 64)	0	conv2_block1_2_b...
conv2_block1_0_conv (Conv2D)	(None, 75, 75, 256)	16,640	conv2_block1_pre...
conv2_block1_3_conv (Conv2D)	(None, 75, 75, 256)	16,640	conv2_block1_2_r...
conv2_block1_out (Add)	(None, 75, 75, 256)	0	conv2_block1_0_c... conv2_block1_3_c...
conv2_block2_preac... (BatchNormalizatio...	(None, 75, 75, 256)	1,024	conv2_block1_out...
conv2_block2_preac... (Activation)	(None, 75, 75, 256)	0	conv2_block2_pre...
conv2_block2_1_conv (Conv2D)	(None, 75, 75, 64)	16,384	conv2_block2_pre...
conv2_block2_1_bn (BatchNormalizatio...	(None, 75, 75, 64)	256	conv2_block2_1_c...
conv2_block2_1_relu (Activation)	(None, 75, 75, 64)	0	conv2_block2_1_b...

conv2_block2_2_pad (ZeroPadding2D)	(None, 77, 77, 64)	0	conv2_block2_1_r...
conv2_block2_2_conv (Conv2D)	(None, 75, 75, 64)	36,864	conv2_block2_2_p...
conv2_block2_2_bn (BatchNormalizatio...	(None, 75, 75, 64)	256	conv2_block2_2_c...
conv2_block2_2_relu (Activation)	(None, 75, 75, 64)	0	conv2_block2_2_b...
conv2_block2_3_conv (Conv2D)	(None, 75, 75, 256)	16,640	conv2_block2_2_r...
conv2_block2_out (Add)	(None, 75, 75, 256)	0	conv2_block1_out... conv2_block2_3_c...
conv2_block3_preac... (BatchNormalizatio...	(None, 75, 75, 256)	1,024	conv2_block2_out...
conv2_block3_preac... (Activation)	(None, 75, 75, 256)	0	conv2_block3_pre...
conv2_block3_1_conv (Conv2D)	(None, 75, 75, 64)	16,384	conv2_block3_pre...
conv2_block3_1_bn (BatchNormalizatio...	(None, 75, 75, 64)	256	conv2_block3_1_c...
conv2_block3_1_relu (Activation)	(None, 75, 75, 64)	0	conv2_block3_1_b...
conv2_block3_2_pad (ZeroPadding2D)	(None, 77, 77, 64)	0	conv2_block3_1_r...
conv2_block3_2_conv (Conv2D)	(None, 38, 38, 64)	36,864	conv2_block3_2_p...
conv2_block3_2_bn (BatchNormalizatio...	(None, 38, 38, 64)	256	conv2_block3_2_c...
conv2_block3_2_relu (Activation)	(None, 38, 38, 64)	0	conv2_block3_2_b...
max_pooling2d_3 (MaxPooling2D)	(None, 38, 38, 256)	0	conv2_block2_out...
conv2_block3_3_conv (Conv2D)	(None, 38, 38, 256)	16,640	conv2_block3_2_r...
conv2_block3_out (Add)	(None, 38, 38, 256)	0	max_pooling2d_3[... conv2_block3_3_c...
conv3_block1_preac... (BatchNormalizatio...	(None, 38, 38, 256)	1,024	conv2_block3_out...
conv3_block1_preac... (Activation)	(None, 38, 38, 256)	0	conv3_block1_pre...
conv3_block1_1_conv (Conv2D)	(None, 38, 38, 128)	32,768	conv3_block1_pre...
conv3_block1_1_bn (BatchNormalizatio...	(None, 38, 38, 128)	512	conv3_block1_1_c...
conv3_block1_1_relu (Activation)	(None, 38, 38, 128)	0	conv3_block1_1_b...
conv3_block1_2_pad	(None, 40, 40,	0	conv3_block1_1_r...

(ZeroPadding2D)	(128)		
conv3_block1_2_conv (Conv2D)	(None, 38, 38, 128)	147,456	conv3_block1_2_p...
conv3_block1_2_bn (BatchNormalizatio...	(None, 38, 38, 128)	512	conv3_block1_2_c...
conv3_block1_2_relu (Activation)	(None, 38, 38, 128)	0	conv3_block1_2_b...
conv3_block1_0_conv (Conv2D)	(None, 38, 38, 512)	131,584	conv3_block1_pre...
conv3_block1_3_conv (Conv2D)	(None, 38, 38, 512)	66,048	conv3_block1_2_r...
conv3_block1_out (Add)	(None, 38, 38, 512)	0	conv3_block1_0_c... conv3_block1_3_c...
conv3_block2_preac... (BatchNormalizatio...	(None, 38, 38, 512)	2,048	conv3_block1_out...
conv3_block2_preac... (Activation)	(None, 38, 38, 512)	0	conv3_block2_pre...
conv3_block2_1_conv (Conv2D)	(None, 38, 38, 128)	65,536	conv3_block2_pre...
conv3_block2_1_bn (BatchNormalizatio...	(None, 38, 38, 128)	512	conv3_block2_1_c...
conv3_block2_1_relu (Activation)	(None, 38, 38, 128)	0	conv3_block2_1_b...
conv3_block2_2_pad (ZeroPadding2D)	(None, 40, 40, 128)	0	conv3_block2_1_r...
conv3_block2_2_conv (Conv2D)	(None, 38, 38, 128)	147,456	conv3_block2_2_p...
conv3_block2_2_bn (BatchNormalizatio...	(None, 38, 38, 128)	512	conv3_block2_2_c...
conv3_block2_2_relu (Activation)	(None, 38, 38, 128)	0	conv3_block2_2_b...
conv3_block2_3_conv (Conv2D)	(None, 38, 38, 512)	66,048	conv3_block2_2_r...
conv3_block2_out (Add)	(None, 38, 38, 512)	0	conv3_block1_out... conv3_block2_3_c...
conv3_block3_preac... (BatchNormalizatio...	(None, 38, 38, 512)	2,048	conv3_block2_out...
conv3_block3_preac... (Activation)	(None, 38, 38, 512)	0	conv3_block3_pre...
conv3_block3_1_conv (Conv2D)	(None, 38, 38, 128)	65,536	conv3_block3_pre...
conv3_block3_1_bn (BatchNormalizatio...	(None, 38, 38, 128)	512	conv3_block3_1_c...
conv3_block3_1_relu (Activation)	(None, 38, 38, 128)	0	conv3_block3_1_b...
conv3_block3_2_pad (ZeroPadding2D)	(None, 40, 40, 128)	0	conv3_block3_1_r...

conv3_block3_2_conv (Conv2D)	(None, 38, 38, 128)	147,456	conv3_block3_2_p...
conv3_block3_2_bn (BatchNormalizatio...	(None, 38, 38, 128)	512	conv3_block3_2_c...
conv3_block3_2_relu (Activation)	(None, 38, 38, 128)	0	conv3_block3_2_b...
conv3_block3_3_conv (Conv2D)	(None, 38, 38, 512)	66,048	conv3_block3_2_r...
conv3_block3_out (Add)	(None, 38, 38, 512)	0	conv3_block2_out... conv3_block3_3_c...
conv3_block4_preac... (BatchNormalizatio...	(None, 38, 38, 512)	2,048	conv3_block3_out...
conv3_block4_preac... (Activation)	(None, 38, 38, 512)	0	conv3_block4_pre...
conv3_block4_1_conv (Conv2D)	(None, 38, 38, 128)	65,536	conv3_block4_pre...
conv3_block4_1_bn (BatchNormalizatio...	(None, 38, 38, 128)	512	conv3_block4_1_c...
conv3_block4_1_relu (Activation)	(None, 38, 38, 128)	0	conv3_block4_1_b...
conv3_block4_2_pad (ZeroPadding2D)	(None, 40, 40, 128)	0	conv3_block4_1_r...
conv3_block4_2_conv (Conv2D)	(None, 19, 19, 128)	147,456	conv3_block4_2_p...
conv3_block4_2_bn (BatchNormalizatio...	(None, 19, 19, 128)	512	conv3_block4_2_c...
conv3_block4_2_relu (Activation)	(None, 19, 19, 128)	0	conv3_block4_2_b...
max_pooling2d_4 (MaxPooling2D)	(None, 19, 19, 512)	0	conv3_block3_out...
conv3_block4_3_conv (Conv2D)	(None, 19, 19, 512)	66,048	conv3_block4_2_r...
conv3_block4_out (Add)	(None, 19, 19, 512)	0	max_pooling2d_4[... conv3_block4_3_c...
conv4_block1_preac... (BatchNormalizatio...	(None, 19, 19, 512)	2,048	conv3_block4_out...
conv4_block1_preac... (Activation)	(None, 19, 19, 512)	0	conv4_block1_pre...
conv4_block1_1_conv (Conv2D)	(None, 19, 19, 256)	131,072	conv4_block1_pre...
conv4_block1_1_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block1_1_c...
conv4_block1_1_relu (Activation)	(None, 19, 19, 256)	0	conv4_block1_1_b...
conv4_block1_2_pad (ZeroPadding2D)	(None, 21, 21, 256)	0	conv4_block1_1_r...

conv4_block1_2_conv (Conv2D)	(None, 19, 19, 256)	589,824	conv4_block1_2_p...
conv4_block1_2_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block1_2_c...
conv4_block1_2_relu (Activation)	(None, 19, 19, 256)	0	conv4_block1_2_b...
conv4_block1_0_conv (Conv2D)	(None, 19, 19, 1024)	525,312	conv4_block1_pre...
conv4_block1_3_conv (Conv2D)	(None, 19, 19, 1024)	263,168	conv4_block1_2_r...
conv4_block1_out (Add)	(None, 19, 19, 1024)	0	conv4_block1_0_c... conv4_block1_3_c...
conv4_block2_preac... (BatchNormalizatio...	(None, 19, 19, 1024)	4,096	conv4_block1_out...
conv4_block2_preac... (Activation)	(None, 19, 19, 1024)	0	conv4_block2_pre...
conv4_block2_1_conv (Conv2D)	(None, 19, 19, 256)	262,144	conv4_block2_pre...
conv4_block2_1_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block2_1_c...
conv4_block2_1_relu (Activation)	(None, 19, 19, 256)	0	conv4_block2_1_b...
conv4_block2_2_pad (ZeroPadding2D)	(None, 21, 21, 256)	0	conv4_block2_1_r...
conv4_block2_2_conv (Conv2D)	(None, 19, 19, 256)	589,824	conv4_block2_2_p...
conv4_block2_2_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block2_2_c...
conv4_block2_2_relu (Activation)	(None, 19, 19, 256)	0	conv4_block2_2_b...
conv4_block2_3_conv (Conv2D)	(None, 19, 19, 1024)	263,168	conv4_block2_2_r...
conv4_block2_out (Add)	(None, 19, 19, 1024)	0	conv4_block1_out... conv4_block2_3_c...
conv4_block3_preac... (BatchNormalizatio...	(None, 19, 19, 1024)	4,096	conv4_block2_out...
conv4_block3_preac... (Activation)	(None, 19, 19, 1024)	0	conv4_block3_pre...
conv4_block3_1_conv (Conv2D)	(None, 19, 19, 256)	262,144	conv4_block3_pre...
conv4_block3_1_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block3_1_c...
conv4_block3_1_relu (Activation)	(None, 19, 19, 256)	0	conv4_block3_1_b...
conv4_block3_2_pad (ZeroPadding2D)	(None, 21, 21, 256)	0	conv4_block3_1_r...
conv4_block3_2_conv	(None, 19, 19,	589,824	conv4_block3_2_p...

(Conv2D)	256)		
conv4_block3_2_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block3_2_c...
conv4_block3_2_relu (Activation)	(None, 19, 19, 256)	0	conv4_block3_2_b...
conv4_block3_3_conv (Conv2D)	(None, 19, 19, 1024)	263,168	conv4_block3_2_r...
conv4_block3_out (Add)	(None, 19, 19, 1024)	0	conv4_block2_out... conv4_block3_3_c...
conv4_block4_preac... (BatchNormalizatio...	(None, 19, 19, 1024)	4,096	conv4_block3_out...
conv4_block4_preac... (Activation)	(None, 19, 19, 1024)	0	conv4_block4_pre...
conv4_block4_1_conv (Conv2D)	(None, 19, 19, 256)	262,144	conv4_block4_pre...
conv4_block4_1_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block4_1_c...
conv4_block4_1_relu (Activation)	(None, 19, 19, 256)	0	conv4_block4_1_b...
conv4_block4_2_pad (ZeroPadding2D)	(None, 21, 21, 256)	0	conv4_block4_1_r...
conv4_block4_2_conv (Conv2D)	(None, 19, 19, 256)	589,824	conv4_block4_2_p...
conv4_block4_2_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block4_2_c...
conv4_block4_2_relu (Activation)	(None, 19, 19, 256)	0	conv4_block4_2_b...
conv4_block4_3_conv (Conv2D)	(None, 19, 19, 1024)	263,168	conv4_block4_2_r...
conv4_block4_out (Add)	(None, 19, 19, 1024)	0	conv4_block3_out... conv4_block4_3_c...
conv4_block5_preac... (BatchNormalizatio...	(None, 19, 19, 1024)	4,096	conv4_block4_out...
conv4_block5_preac... (Activation)	(None, 19, 19, 1024)	0	conv4_block5_pre...
conv4_block5_1_conv (Conv2D)	(None, 19, 19, 256)	262,144	conv4_block5_pre...
conv4_block5_1_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block5_1_c...
conv4_block5_1_relu (Activation)	(None, 19, 19, 256)	0	conv4_block5_1_b...
conv4_block5_2_pad (ZeroPadding2D)	(None, 21, 21, 256)	0	conv4_block5_1_r...
conv4_block5_2_conv (Conv2D)	(None, 19, 19, 256)	589,824	conv4_block5_2_p...
conv4_block5_2_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block5_2_c...

conv4_block5_2_relu (Activation)	(None, 19, 19, 256)	0	conv4_block5_2_b...
conv4_block5_3_conv (Conv2D)	(None, 19, 19, 1024)	263,168	conv4_block5_2_r...
conv4_block5_out (Add)	(None, 19, 19, 1024)	0	conv4_block4_out... conv4_block5_3_c...
conv4_block6_preac... (BatchNormalizatio...	(None, 19, 19, 1024)	4,096	conv4_block5_out...
conv4_block6_preac... (Activation)	(None, 19, 19, 1024)	0	conv4_block6_pre...
conv4_block6_1_conv (Conv2D)	(None, 19, 19, 256)	262,144	conv4_block6_pre...
conv4_block6_1_bn (BatchNormalizatio...	(None, 19, 19, 256)	1,024	conv4_block6_1_c...
conv4_block6_1_relu (Activation)	(None, 19, 19, 256)	0	conv4_block6_1_b...
conv4_block6_2_pad (ZeroPadding2D)	(None, 21, 21, 256)	0	conv4_block6_1_r...
conv4_block6_2_conv (Conv2D)	(None, 10, 10, 256)	589,824	conv4_block6_2_p...
conv4_block6_2_bn (BatchNormalizatio...	(None, 10, 10, 256)	1,024	conv4_block6_2_c...
conv4_block6_2_relu (Activation)	(None, 10, 10, 256)	0	conv4_block6_2_b...
max_pooling2d_5 (MaxPooling2D)	(None, 10, 10, 1024)	0	conv4_block5_out...
conv4_block6_3_conv (Conv2D)	(None, 10, 10, 1024)	263,168	conv4_block6_2_r...
conv4_block6_out (Add)	(None, 10, 10, 1024)	0	max_pooling2d_5[... conv4_block6_3_c...
conv5_block1_preac... (BatchNormalizatio...	(None, 10, 10, 1024)	4,096	conv4_block6_out...
conv5_block1_preac... (Activation)	(None, 10, 10, 1024)	0	conv5_block1_pre...
conv5_block1_1_conv (Conv2D)	(None, 10, 10, 512)	524,288	conv5_block1_pre...
conv5_block1_1_bn (BatchNormalizatio...	(None, 10, 10, 512)	2,048	conv5_block1_1_c...
conv5_block1_1_relu (Activation)	(None, 10, 10, 512)	0	conv5_block1_1_b...
conv5_block1_2_pad (ZeroPadding2D)	(None, 12, 12, 512)	0	conv5_block1_1_r...
conv5_block1_2_conv (Conv2D)	(None, 10, 10, 512)	2,359,296	conv5_block1_2_p...
conv5_block1_2_bn (BatchNormalizatio...	(None, 10, 10, 512)	2,048	conv5_block1_2_c...

conv5_block1_2_relu (Activation)	(None, 10, 10, 512)	0	conv5_block1_2_b...
conv5_block1_0_conv (Conv2D)	(None, 10, 10, 2048)	2,099,200	conv5_block1_pre...
conv5_block1_3_conv (Conv2D)	(None, 10, 10, 2048)	1,050,624	conv5_block1_2_r...
conv5_block1_out (Add)	(None, 10, 10, 2048)	0	conv5_block1_0_c... conv5_block1_3_c...
conv5_block2_preac... (BatchNormalizatio...	(None, 10, 10, 2048)	8,192	conv5_block1_out...
conv5_block2_preac... (Activation)	(None, 10, 10, 2048)	0	conv5_block2_pre...
conv5_block2_1_conv (Conv2D)	(None, 10, 10, 512)	1,048,576	conv5_block2_pre...
conv5_block2_1_bn (BatchNormalizatio...	(None, 10, 10, 512)	2,048	conv5_block2_1_c...
conv5_block2_1_relu (Activation)	(None, 10, 10, 512)	0	conv5_block2_1_b...
conv5_block2_2_pad (ZeroPadding2D)	(None, 12, 12, 512)	0	conv5_block2_1_r...
conv5_block2_2_conv (Conv2D)	(None, 10, 10, 512)	2,359,296	conv5_block2_2_p...
conv5_block2_2_bn (BatchNormalizatio...	(None, 10, 10, 512)	2,048	conv5_block2_2_c...
conv5_block2_2_relu (Activation)	(None, 10, 10, 512)	0	conv5_block2_2_b...
conv5_block2_3_conv (Conv2D)	(None, 10, 10, 2048)	1,050,624	conv5_block2_2_r...
conv5_block2_out (Add)	(None, 10, 10, 2048)	0	conv5_block1_out... conv5_block2_3_c...
conv5_block3_preac... (BatchNormalizatio...	(None, 10, 10, 2048)	8,192	conv5_block2_out...
conv5_block3_preac... (Activation)	(None, 10, 10, 2048)	0	conv5_block3_pre...
conv5_block3_1_conv (Conv2D)	(None, 10, 10, 512)	1,048,576	conv5_block3_pre...
conv5_block3_1_bn (BatchNormalizatio...	(None, 10, 10, 512)	2,048	conv5_block3_1_c...
conv5_block3_1_relu (Activation)	(None, 10, 10, 512)	0	conv5_block3_1_b...
conv5_block3_2_pad (ZeroPadding2D)	(None, 12, 12, 512)	0	conv5_block3_1_r...
conv5_block3_2_conv (Conv2D)	(None, 10, 10, 512)	2,359,296	conv5_block3_2_p...
conv5_block3_2_bn (BatchNormalizatio...	(None, 10, 10, 512)	2,048	conv5_block3_2_c...
conv5_block3_2_relu	(None, 10, 10,	0	conv5_block3_2_b...

(Activation)	512)		
conv5_block3_3_conv (Conv2D)	(None, 10, 10, 2048)	1,050,624	conv5_block3_2_r...
conv5_block3_out (Add)	(None, 10, 10, 2048)	0	conv5_block2_out... conv5_block3_3_c...
post_bn (BatchNormalizatio...	(None, 10, 10, 2048)	8,192	conv5_block3_out...
post_relu (Activation)	(None, 10, 10, 2048)	0	post_bn[0][0]

Total params: 23,564,800 (89.89 MB) Trainable params: 23,519,360 (89.72 MB) Non-trainable params: 45,440 (177.50 KB)