

Model: "mask_rcnn" Architecture

Layer (type)	Output Shape	Param #	Connected to
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input_image (InputLayer)	[(None, None, None, 0		

zero_padding2d (ZeroPadding2D)	(None, None, None, 3 0		input_image[0][0]

conv1 (Conv2D)	(None, None, None, 6 9472		zero_padding2d[0][0]

bn_conv1 (BatchNorm)	(None, None, None, 6 256		conv1[0][0]

activation (Activation)	(None, None, None, 6 0		bn_conv1[0][0]

max_pooling2d (MaxPooling2D)	(None, None, None, 6 0		activation[0][0]

res2a_branch2a (Conv2D)	(None, None, None, 6 4160		max_pooling2d[0][0]

bn2a_branch2a (BatchNorm)	(None, None, None, 6 256		res2a_branch2a[0][0]

activation_1 (Activation)	(None, None, None, 6 0		bn2a_branch2a[0][0]

res2a_branch2b (Conv2D)	(None, None, None, 6 36928		activation_1[0][0]

bn2a_branch2b (BatchNorm)	(None, None, None, 6 256		res2a_branch2b[0][0]

activation_2 (Activation)	(None, None, None, 6 0		bn2a_branch2b[0][0]

res2a_branch2c (Conv2D)	(None, None, None, 2 16640		activation_2[0][0]

res2a_branch1 (Conv2D)	(None, None, None, 2 16640		max_pooling2d[0][0]

bn2a_branch2c (BatchNorm)	(None, None, None, 2 1024		res2a_branch2c[0][0]

bn2a_branch1 (BatchNorm)	(None, None, None, 2 1024	res2a_branch1[0][0]
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add (Add)	(None, None, None, 2 0	bn2a_branch2c[0][0] bn2a_branch1[0][0]
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res2a_out (Activation)	(None, None, None, 2 0	add[0][0]
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res2b_branch2a (Conv2D)	(None, None, None, 6 16448	res2a_out[0][0]
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bn2b_branch2a (BatchNorm)	(None, None, None, 6 256	res2b_branch2a[0][0]
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activation_3 (Activation)	(None, None, None, 6 0	bn2b_branch2a[0][0]
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res2b_branch2b (Conv2D)	(None, None, None, 6 36928	activation_3[0][0]
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bn2b_branch2b (BatchNorm)	(None, None, None, 6 256	res2b_branch2b[0][0]
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activation_4 (Activation)	(None, None, None, 6 0	bn2b_branch2b[0][0]
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res2b_branch2c (Conv2D)	(None, None, None, 2 16640	activation_4[0][0]
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bn2b_branch2c (BatchNorm)	(None, None, None, 2 1024	res2b_branch2c[0][0]
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add_1 (Add)	(None, None, None, 2 0	bn2b_branch2c[0][0] res2a_out[0][0]
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res2b_out (Activation)	(None, None, None, 2 0	add_1[0][0]
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res2c_branch2a (Conv2D)	(None, None, None, 6 16448	res2b_out[0][0]
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bn2c_branch2a (BatchNorm)	(None, None, None, 6 256	res2c_branch2a[0][0]
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activation_5 (Activation)	(None, None, None, 6 0	bn2c_branch2a[0][0]
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res2c_branch2b (Conv2D)	(None, None, None, 6 36928	activation_5[0][0]
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bn2c_branch2b (BatchNorm)	(None, None, None, 6 256	res2c_branch2b[0][0]
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activation_6 (Activation)	(None, None, None, 6 0	bn2c_branch2b[0][0]
res2c_branch2c (Conv2D)	(None, None, None, 2 16640	activation_6[0][0]
bn2c_branch2c (BatchNorm)	(None, None, None, 2 1024	res2c_branch2c[0][0]
add_2 (Add)	(None, None, None, 2 0 res2b_out[0][0]	bn2c_branch2c[0][0]
res2c_out (Activation)	(None, None, None, 2 0	add_2[0][0]
res3a_branch2a (Conv2D)	(None, None, None, 1 32896	res2c_out[0][0]
bn3a_branch2a (BatchNorm)	(None, None, None, 1 512	res3a_branch2a[0][0]
activation_7 (Activation)	(None, None, None, 1 0	bn3a_branch2a[0][0]
res3a_branch2b (Conv2D)	(None, None, None, 1 147584	activation_7[0][0]
bn3a_branch2b (BatchNorm)	(None, None, None, 1 512	res3a_branch2b[0][0]
activation_8 (Activation)	(None, None, None, 1 0	bn3a_branch2b[0][0]
res3a_branch2c (Conv2D)	(None, None, None, 5 66048	activation_8[0][0]
res3a_branch1 (Conv2D)	(None, None, None, 5 131584	res2c_out[0][0]
bn3a_branch2c (BatchNorm)	(None, None, None, 5 2048	res3a_branch2c[0][0]
bn3a_branch1 (BatchNorm)	(None, None, None, 5 2048	res3a_branch1[0][0]
add_3 (Add)	(None, None, None, 5 0 bn3a_branch1[0][0]	bn3a_branch2c[0][0]
res3a_out (Activation)	(None, None, None, 5 0	add_3[0][0]

res3b_branch2a (Conv2D)	(None, None, None, 1 65664	res3a_out[0][0]
bn3b_branch2a (BatchNorm)	(None, None, None, 1 512	res3b_branch2a[0][0]
activation_9 (Activation)	(None, None, None, 1 0	bn3b_branch2a[0][0]
res3b_branch2b (Conv2D)	(None, None, None, 1 147584	activation_9[0][0]
bn3b_branch2b (BatchNorm)	(None, None, None, 1 512	res3b_branch2b[0][0]
activation_10 (Activation)	(None, None, None, 1 0	bn3b_branch2b[0][0]
res3b_branch2c (Conv2D)	(None, None, None, 5 66048	activation_10[0][0]
bn3b_branch2c (BatchNorm)	(None, None, None, 5 2048	res3b_branch2c[0][0]
add_4 (Add)	(None, None, None, 5 0 res3a_out[0][0]	bn3b_branch2c[0][0]
res3b_out (Activation)	(None, None, None, 5 0	add_4[0][0]
res3c_branch2a (Conv2D)	(None, None, None, 1 65664	res3b_out[0][0]
bn3c_branch2a (BatchNorm)	(None, None, None, 1 512	res3c_branch2a[0][0]
activation_11 (Activation)	(None, None, None, 1 0	bn3c_branch2a[0][0]
res3c_branch2b (Conv2D)	(None, None, None, 1 147584	activation_11[0][0]
bn3c_branch2b (BatchNorm)	(None, None, None, 1 512	res3c_branch2b[0][0]
activation_12 (Activation)	(None, None, None, 1 0	bn3c_branch2b[0][0]
res3c_branch2c (Conv2D)	(None, None, None, 5 66048	activation_12[0][0]

bn3c_branch2c (BatchNorm)	(None, None, None, 5 2048	res3c_branch2c[0][0]
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add_5 (Add)	(None, None, None, 5 0	bn3c_branch2c[0][0] res3b_out[0][0]
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res3c_out (Activation)	(None, None, None, 5 0	add_5[0][0]
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res3d_branch2a (Conv2D)	(None, None, None, 1 65664	res3c_out[0][0]
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bn3d_branch2a (BatchNorm)	(None, None, None, 1 512	res3d_branch2a[0][0]
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activation_13 (Activation)	(None, None, None, 1 0	bn3d_branch2a[0][0]
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res3d_branch2b (Conv2D)	(None, None, None, 1 147584	activation_13[0][0]
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bn3d_branch2b (BatchNorm)	(None, None, None, 1 512	res3d_branch2b[0][0]
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activation_14 (Activation)	(None, None, None, 1 0	bn3d_branch2b[0][0]
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res3d_branch2c (Conv2D)	(None, None, None, 5 66048	activation_14[0][0]
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bn3d_branch2c (BatchNorm)	(None, None, None, 5 2048	res3d_branch2c[0][0]
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add_6 (Add)	(None, None, None, 5 0	bn3d_branch2c[0][0] res3c_out[0][0]
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res3d_out (Activation)	(None, None, None, 5 0	add_6[0][0]
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res4a_branch2a (Conv2D)	(None, None, None, 2 131328	res3d_out[0][0]
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bn4a_branch2a (BatchNorm)	(None, None, None, 2 1024	res4a_branch2a[0][0]
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activation_15 (Activation)	(None, None, None, 2 0	bn4a_branch2a[0][0]
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res4a_branch2b (Conv2D)	(None, None, None, 2 590080	activation_15[0][0]
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bn4a_branch2b (BatchNorm)	(None, None, None, 2 1024	res4a_branch2b[0][0]
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activation_16 (Activation)	(None, None, None, 2 0	bn4a_branch2b[0][0]
res4a_branch2c (Conv2D)	(None, None, None, 1 263168	activation_16[0][0]
res4a_branch1 (Conv2D)	(None, None, None, 1 525312	res3d_out[0][0]
bn4a_branch2c (BatchNorm)	(None, None, None, 1 4096	res4a_branch2c[0][0]
bn4a_branch1 (BatchNorm)	(None, None, None, 1 4096	res4a_branch1[0][0]
add_7 (Add)	(None, None, None, 1 0	bn4a_branch2c[0][0] bn4a_branch1[0][0]
res4a_out (Activation)	(None, None, None, 1 0	add_7[0][0]
res4b_branch2a (Conv2D)	(None, None, None, 2 262400	res4a_out[0][0]
bn4b_branch2a (BatchNorm)	(None, None, None, 2 1024	res4b_branch2a[0][0]
activation_17 (Activation)	(None, None, None, 2 0	bn4b_branch2a[0][0]
res4b_branch2b (Conv2D)	(None, None, None, 2 590080	activation_17[0][0]
bn4b_branch2b (BatchNorm)	(None, None, None, 2 1024	res4b_branch2b[0][0]
activation_18 (Activation)	(None, None, None, 2 0	bn4b_branch2b[0][0]
res4b_branch2c (Conv2D)	(None, None, None, 1 263168	activation_18[0][0]
bn4b_branch2c (BatchNorm)	(None, None, None, 1 4096	res4b_branch2c[0][0]
add_8 (Add)	(None, None, None, 1 0	bn4b_branch2c[0][0] res4a_out[0][0]
res4b_out (Activation)	(None, None, None, 1 0	add_8[0][0]

res4c_branch2a (Conv2D)	(None, None, None, 2 262400	res4b_out[0][0]
bn4c_branch2a (BatchNorm)	(None, None, None, 2 1024	res4c_branch2a[0][0]
activation_19 (Activation)	(None, None, None, 2 0	bn4c_branch2a[0][0]
res4c_branch2b (Conv2D)	(None, None, None, 2 590080	activation_19[0][0]
bn4c_branch2b (BatchNorm)	(None, None, None, 2 1024	res4c_branch2b[0][0]
activation_20 (Activation)	(None, None, None, 2 0	bn4c_branch2b[0][0]
res4c_branch2c (Conv2D)	(None, None, None, 1 263168	activation_20[0][0]
bn4c_branch2c (BatchNorm)	(None, None, None, 1 4096	res4c_branch2c[0][0]
add_9 (Add)	(None, None, None, 1 0	bn4c_branch2c[0][0] res4b_out[0][0]
res4c_out (Activation)	(None, None, None, 1 0	add_9[0][0]
res4d_branch2a (Conv2D)	(None, None, None, 2 262400	res4c_out[0][0]
bn4d_branch2a (BatchNorm)	(None, None, None, 2 1024	res4d_branch2a[0][0]
activation_21 (Activation)	(None, None, None, 2 0	bn4d_branch2a[0][0]
res4d_branch2b (Conv2D)	(None, None, None, 2 590080	activation_21[0][0]
bn4d_branch2b (BatchNorm)	(None, None, None, 2 1024	res4d_branch2b[0][0]
activation_22 (Activation)	(None, None, None, 2 0	bn4d_branch2b[0][0]
res4d_branch2c (Conv2D)	(None, None, None, 1 263168	activation_22[0][0]

bn4d_branch2c (BatchNorm) (None, None, None, 1 4096 res4d_branch2c[0][0]

add_10 (Add) (None, None, None, 1 0 bn4d_branch2c[0][0]
res4c_out[0][0]

res4d_out (Activation) (None, None, None, 1 0 add_10[0][0]

res4e_branch2a (Conv2D) (None, None, None, 2 262400 res4d_out[0][0]

bn4e_branch2a (BatchNorm) (None, None, None, 2 1024 res4e_branch2a[0][0]

activation_23 (Activation) (None, None, None, 2 0 bn4e_branch2a[0][0]

res4e_branch2b (Conv2D) (None, None, None, 2 590080 activation_23[0][0]

bn4e_branch2b (BatchNorm) (None, None, None, 2 1024 res4e_branch2b[0][0]

activation_24 (Activation) (None, None, None, 2 0 bn4e_branch2b[0][0]

res4e_branch2c (Conv2D) (None, None, None, 1 263168 activation_24[0][0]

bn4e_branch2c (BatchNorm) (None, None, None, 1 4096 res4e_branch2c[0][0]

add_11 (Add) (None, None, None, 1 0 bn4e_branch2c[0][0]
res4d_out[0][0]

res4e_out (Activation) (None, None, None, 1 0 add_11[0][0]

res4f_branch2a (Conv2D) (None, None, None, 2 262400 res4e_out[0][0]

bn4f_branch2a (BatchNorm) (None, None, None, 2 1024 res4f_branch2a[0][0]

activation_25 (Activation) (None, None, None, 2 0 bn4f_branch2a[0][0]

res4f_branch2b (Conv2D) (None, None, None, 2 590080 activation_25[0][0]

bn4f_branch2b (BatchNorm) (None, None, None, 2 1024 res4f_branch2b[0][0]

activation_26 (Activation)	(None, None, None, 2 0	bn4f_branch2b[0][0]
res4f_branch2c (Conv2D)	(None, None, None, 1 263168	activation_26[0][0]
bn4f_branch2c (BatchNorm)	(None, None, None, 1 4096	res4f_branch2c[0][0]
add_12 (Add)	(None, None, None, 1 0 res4e_out[0][0]	bn4f_branch2c[0][0]
res4f_out (Activation)	(None, None, None, 1 0	add_12[0][0]
res4g_branch2a (Conv2D)	(None, None, None, 2 262400	res4f_out[0][0]
bn4g_branch2a (BatchNorm)	(None, None, None, 2 1024	res4g_branch2a[0][0]
activation_27 (Activation)	(None, None, None, 2 0	bn4g_branch2a[0][0]
res4g_branch2b (Conv2D)	(None, None, None, 2 590080	activation_27[0][0]
bn4g_branch2b (BatchNorm)	(None, None, None, 2 1024	res4g_branch2b[0][0]
activation_28 (Activation)	(None, None, None, 2 0	bn4g_branch2b[0][0]
res4g_branch2c (Conv2D)	(None, None, None, 1 263168	activation_28[0][0]
bn4g_branch2c (BatchNorm)	(None, None, None, 1 4096	res4g_branch2c[0][0]
add_13 (Add)	(None, None, None, 1 0 res4f_out[0][0]	bn4g_branch2c[0][0]
res4g_out (Activation)	(None, None, None, 1 0	add_13[0][0]
res4h_branch2a (Conv2D)	(None, None, None, 2 262400	res4g_out[0][0]
bn4h_branch2a (BatchNorm)	(None, None, None, 2 1024	res4h_branch2a[0][0]

activation_29 (Activation)	(None, None, None, 2 0	bn4h_branch2a[0][0]
res4h_branch2b (Conv2D)	(None, None, None, 2 590080	activation_29[0][0]
bn4h_branch2b (BatchNorm)	(None, None, None, 2 1024	res4h_branch2b[0][0]
activation_30 (Activation)	(None, None, None, 2 0	bn4h_branch2b[0][0]
res4h_branch2c (Conv2D)	(None, None, None, 1 263168	activation_30[0][0]
bn4h_branch2c (BatchNorm)	(None, None, None, 1 4096	res4h_branch2c[0][0]
add_14 (Add)	(None, None, None, 1 0 res4g_out[0][0]	bn4h_branch2c[0][0]
res4h_out (Activation)	(None, None, None, 1 0	add_14[0][0]
res4i_branch2a (Conv2D)	(None, None, None, 2 262400	res4h_out[0][0]
bn4i_branch2a (BatchNorm)	(None, None, None, 2 1024	res4i_branch2a[0][0]
activation_31 (Activation)	(None, None, None, 2 0	bn4i_branch2a[0][0]
res4i_branch2b (Conv2D)	(None, None, None, 2 590080	activation_31[0][0]
bn4i_branch2b (BatchNorm)	(None, None, None, 2 1024	res4i_branch2b[0][0]
activation_32 (Activation)	(None, None, None, 2 0	bn4i_branch2b[0][0]
res4i_branch2c (Conv2D)	(None, None, None, 1 263168	activation_32[0][0]
bn4i_branch2c (BatchNorm)	(None, None, None, 1 4096	res4i_branch2c[0][0]
add_15 (Add)	(None, None, None, 1 0 res4h_out[0][0]	bn4i_branch2c[0][0]

res4i_out (Activation)	(None, None, None, 1 0	add_15[0][0]
res4j_branch2a (Conv2D)	(None, None, None, 2 262400	res4i_out[0][0]
bn4j_branch2a (BatchNorm)	(None, None, None, 2 1024	res4j_branch2a[0][0]
activation_33 (Activation)	(None, None, None, 2 0	bn4j_branch2a[0][0]
res4j_branch2b (Conv2D)	(None, None, None, 2 590080	activation_33[0][0]
bn4j_branch2b (BatchNorm)	(None, None, None, 2 1024	res4j_branch2b[0][0]
activation_34 (Activation)	(None, None, None, 2 0	bn4j_branch2b[0][0]
res4j_branch2c (Conv2D)	(None, None, None, 1 263168	activation_34[0][0]
bn4j_branch2c (BatchNorm)	(None, None, None, 1 4096	res4j_branch2c[0][0]
add_16 (Add)	(None, None, None, 1 0	bn4j_branch2c[0][0] res4i_out[0][0]
res4j_out (Activation)	(None, None, None, 1 0	add_16[0][0]
res4k_branch2a (Conv2D)	(None, None, None, 2 262400	res4j_out[0][0]
bn4k_branch2a (BatchNorm)	(None, None, None, 2 1024	res4k_branch2a[0][0]
activation_35 (Activation)	(None, None, None, 2 0	bn4k_branch2a[0][0]
res4k_branch2b (Conv2D)	(None, None, None, 2 590080	activation_35[0][0]
bn4k_branch2b (BatchNorm)	(None, None, None, 2 1024	res4k_branch2b[0][0]
activation_36 (Activation)	(None, None, None, 2 0	bn4k_branch2b[0][0]

res4k_branch2c (Conv2D) (None, None, None, 1 263168 activation_36[0][0]

bn4k_branch2c (BatchNorm) (None, None, None, 1 4096 res4k_branch2c[0][0]

add_17 (Add) (None, None, None, 1 0 bn4k_branch2c[0][0]
res4j_out[0][0]

res4k_out (Activation) (None, None, None, 1 0 add_17[0][0]

res4l_branch2a (Conv2D) (None, None, None, 2 262400 res4k_out[0][0]

bn4l_branch2a (BatchNorm) (None, None, None, 2 1024 res4l_branch2a[0][0]

activation_37 (Activation) (None, None, None, 2 0 bn4l_branch2a[0][0]

res4l_branch2b (Conv2D) (None, None, None, 2 590080 activation_37[0][0]

bn4l_branch2b (BatchNorm) (None, None, None, 2 1024 res4l_branch2b[0][0]

activation_38 (Activation) (None, None, None, 2 0 bn4l_branch2b[0][0]

res4l_branch2c (Conv2D) (None, None, None, 1 263168 activation_38[0][0]

bn4l_branch2c (BatchNorm) (None, None, None, 1 4096 res4l_branch2c[0][0]

add_18 (Add) (None, None, None, 1 0 bn4l_branch2c[0][0]
res4k_out[0][0]

res4l_out (Activation) (None, None, None, 1 0 add_18[0][0]

res4m_branch2a (Conv2D) (None, None, None, 2 262400 res4l_out[0][0]

bn4m_branch2a (BatchNorm) (None, None, None, 2 1024 res4m_branch2a[0][0]

activation_39 (Activation) (None, None, None, 2 0 bn4m_branch2a[0][0]

res4m_branch2b (Conv2D) (None, None, None, 2 590080 activation_39[0][0]

bn4m_branch2b (BatchNorm)	(None, None, None, 2 1024	res4m_branch2b[0][0]
activation_40 (Activation)	(None, None, None, 2 0	bn4m_branch2b[0][0]
res4m_branch2c (Conv2D)	(None, None, None, 1 263168	activation_40[0][0]
bn4m_branch2c (BatchNorm)	(None, None, None, 1 4096	res4m_branch2c[0][0]
add_19 (Add)	(None, None, None, 1 0 res4l_out[0][0]	bn4m_branch2c[0][0]
res4m_out (Activation)	(None, None, None, 1 0	add_19[0][0]
res4n_branch2a (Conv2D)	(None, None, None, 2 262400	res4m_out[0][0]
bn4n_branch2a (BatchNorm)	(None, None, None, 2 1024	res4n_branch2a[0][0]
activation_41 (Activation)	(None, None, None, 2 0	bn4n_branch2a[0][0]
res4n_branch2b (Conv2D)	(None, None, None, 2 590080	activation_41[0][0]
bn4n_branch2b (BatchNorm)	(None, None, None, 2 1024	res4n_branch2b[0][0]
activation_42 (Activation)	(None, None, None, 2 0	bn4n_branch2b[0][0]
res4n_branch2c (Conv2D)	(None, None, None, 1 263168	activation_42[0][0]
bn4n_branch2c (BatchNorm)	(None, None, None, 1 4096	res4n_branch2c[0][0]
add_20 (Add)	(None, None, None, 1 0 res4m_out[0][0]	bn4n_branch2c[0][0]
res4n_out (Activation)	(None, None, None, 1 0	add_20[0][0]
res4o_branch2a (Conv2D)	(None, None, None, 2 262400	res4n_out[0][0]

bn4o_branch2a (BatchNorm)	(None, None, None, 2 1024	res4o_branch2a[0][0]
activation_43 (Activation)	(None, None, None, 2 0	bn4o_branch2a[0][0]
res4o_branch2b (Conv2D)	(None, None, None, 2 590080	activation_43[0][0]
bn4o_branch2b (BatchNorm)	(None, None, None, 2 1024	res4o_branch2b[0][0]
activation_44 (Activation)	(None, None, None, 2 0	bn4o_branch2b[0][0]
res4o_branch2c (Conv2D)	(None, None, None, 1 263168	activation_44[0][0]
bn4o_branch2c (BatchNorm)	(None, None, None, 1 4096	res4o_branch2c[0][0]
add_21 (Add)	(None, None, None, 1 0	bn4o_branch2c[0][0] res4n_out[0][0]
res4o_out (Activation)	(None, None, None, 1 0	add_21[0][0]
res4p_branch2a (Conv2D)	(None, None, None, 2 262400	res4o_out[0][0]
bn4p_branch2a (BatchNorm)	(None, None, None, 2 1024	res4p_branch2a[0][0]
activation_45 (Activation)	(None, None, None, 2 0	bn4p_branch2a[0][0]
res4p_branch2b (Conv2D)	(None, None, None, 2 590080	activation_45[0][0]
bn4p_branch2b (BatchNorm)	(None, None, None, 2 1024	res4p_branch2b[0][0]
activation_46 (Activation)	(None, None, None, 2 0	bn4p_branch2b[0][0]
res4p_branch2c (Conv2D)	(None, None, None, 1 263168	activation_46[0][0]
bn4p_branch2c (BatchNorm)	(None, None, None, 1 4096	res4p_branch2c[0][0]

add_22 (Add)	(None, None, None, 1 0	bn4p_branch2c[0][0]
	res4o_out[0][0]	

res4p_out (Activation)	(None, None, None, 1 0	add_22[0][0]
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res4q_branch2a (Conv2D)	(None, None, None, 2 262400	res4p_out[0][0]
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bn4q_branch2a (BatchNorm)	(None, None, None, 2 1024	res4q_branch2a[0][0]
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activation_47 (Activation)	(None, None, None, 2 0	bn4q_branch2a[0][0]
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res4q_branch2b (Conv2D)	(None, None, None, 2 590080	activation_47[0][0]
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bn4q_branch2b (BatchNorm)	(None, None, None, 2 1024	res4q_branch2b[0][0]
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activation_48 (Activation)	(None, None, None, 2 0	bn4q_branch2b[0][0]
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res4q_branch2c (Conv2D)	(None, None, None, 1 263168	activation_48[0][0]
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bn4q_branch2c (BatchNorm)	(None, None, None, 1 4096	res4q_branch2c[0][0]
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add_23 (Add)	(None, None, None, 1 0	bn4q_branch2c[0][0]
	res4p_out[0][0]	

res4q_out (Activation)	(None, None, None, 1 0	add_23[0][0]
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res4r_branch2a (Conv2D)	(None, None, None, 2 262400	res4q_out[0][0]
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bn4r_branch2a (BatchNorm)	(None, None, None, 2 1024	res4r_branch2a[0][0]
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activation_49 (Activation)	(None, None, None, 2 0	bn4r_branch2a[0][0]
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res4r_branch2b (Conv2D)	(None, None, None, 2 590080	activation_49[0][0]
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bn4r_branch2b (BatchNorm)	(None, None, None, 2 1024	res4r_branch2b[0][0]
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activation_50 (Activation)	(None, None, None, 2 0	bn4r_branch2b[0][0]
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res4r_branch2c (Conv2D)	(None, None, None, 1 263168	activation_50[0][0]
bn4r_branch2c (BatchNorm)	(None, None, None, 1 4096	res4r_branch2c[0][0]
add_24 (Add)	(None, None, None, 1 0	bn4r_branch2c[0][0] res4q_out[0][0]
res4r_out (Activation)	(None, None, None, 1 0	add_24[0][0]
res4s_branch2a (Conv2D)	(None, None, None, 2 262400	res4r_out[0][0]
bn4s_branch2a (BatchNorm)	(None, None, None, 2 1024	res4s_branch2a[0][0]
activation_51 (Activation)	(None, None, None, 2 0	bn4s_branch2a[0][0]
res4s_branch2b (Conv2D)	(None, None, None, 2 590080	activation_51[0][0]
bn4s_branch2b (BatchNorm)	(None, None, None, 2 1024	res4s_branch2b[0][0]
activation_52 (Activation)	(None, None, None, 2 0	bn4s_branch2b[0][0]
res4s_branch2c (Conv2D)	(None, None, None, 1 263168	activation_52[0][0]
bn4s_branch2c (BatchNorm)	(None, None, None, 1 4096	res4s_branch2c[0][0]
add_25 (Add)	(None, None, None, 1 0	bn4s_branch2c[0][0] res4r_out[0][0]
res4s_out (Activation)	(None, None, None, 1 0	add_25[0][0]
res4t_branch2a (Conv2D)	(None, None, None, 2 262400	res4s_out[0][0]
bn4t_branch2a (BatchNorm)	(None, None, None, 2 1024	res4t_branch2a[0][0]
activation_53 (Activation)	(None, None, None, 2 0	bn4t_branch2a[0][0]

res4t_branch2b (Conv2D)	(None, None, None, 2 590080	activation_53[0][0]
bn4t_branch2b (BatchNorm)	(None, None, None, 2 1024	res4t_branch2b[0][0]
activation_54 (Activation)	(None, None, None, 2 0	bn4t_branch2b[0][0]
res4t_branch2c (Conv2D)	(None, None, None, 1 263168	activation_54[0][0]
bn4t_branch2c (BatchNorm)	(None, None, None, 1 4096	res4t_branch2c[0][0]
add_26 (Add)	(None, None, None, 1 0 res4s_out[0][0]	bn4t_branch2c[0][0]
res4t_out (Activation)	(None, None, None, 1 0	add_26[0][0]
res4u_branch2a (Conv2D)	(None, None, None, 2 262400	res4t_out[0][0]
bn4u_branch2a (BatchNorm)	(None, None, None, 2 1024	res4u_branch2a[0][0]
activation_55 (Activation)	(None, None, None, 2 0	bn4u_branch2a[0][0]
res4u_branch2b (Conv2D)	(None, None, None, 2 590080	activation_55[0][0]
bn4u_branch2b (BatchNorm)	(None, None, None, 2 1024	res4u_branch2b[0][0]
activation_56 (Activation)	(None, None, None, 2 0	bn4u_branch2b[0][0]
res4u_branch2c (Conv2D)	(None, None, None, 1 263168	activation_56[0][0]
bn4u_branch2c (BatchNorm)	(None, None, None, 1 4096	res4u_branch2c[0][0]
add_27 (Add)	(None, None, None, 1 0 res4t_out[0][0]	bn4u_branch2c[0][0]
res4u_out (Activation)	(None, None, None, 1 0	add_27[0][0]

res4v_branch2a (Conv2D)	(None, None, None, 2 262400	res4u_out[0][0]
bn4v_branch2a (BatchNorm)	(None, None, None, 2 1024	res4v_branch2a[0][0]
activation_57 (Activation)	(None, None, None, 2 0	bn4v_branch2a[0][0]
res4v_branch2b (Conv2D)	(None, None, None, 2 590080	activation_57[0][0]
bn4v_branch2b (BatchNorm)	(None, None, None, 2 1024	res4v_branch2b[0][0]
activation_58 (Activation)	(None, None, None, 2 0	bn4v_branch2b[0][0]
res4v_branch2c (Conv2D)	(None, None, None, 1 263168	activation_58[0][0]
bn4v_branch2c (BatchNorm)	(None, None, None, 1 4096	res4v_branch2c[0][0]
add_28 (Add)	(None, None, None, 1 0 res4u_out[0][0]	bn4v_branch2c[0][0]
res4v_out (Activation)	(None, None, None, 1 0	add_28[0][0]
res4w_branch2a (Conv2D)	(None, None, None, 2 262400	res4v_out[0][0]
bn4w_branch2a (BatchNorm)	(None, None, None, 2 1024	res4w_branch2a[0][0]
activation_59 (Activation)	(None, None, None, 2 0	bn4w_branch2a[0][0]
res4w_branch2b (Conv2D)	(None, None, None, 2 590080	activation_59[0][0]
bn4w_branch2b (BatchNorm)	(None, None, None, 2 1024	res4w_branch2b[0][0]
activation_60 (Activation)	(None, None, None, 2 0	bn4w_branch2b[0][0]
res4w_branch2c (Conv2D)	(None, None, None, 1 263168	activation_60[0][0]

bn4w_branch2c (BatchNorm) (None, None, None, 1 4096 res4w_branch2c[0][0]

add_29 (Add) (None, None, None, 1 0 bn4w_branch2c[0][0]
res4v_out[0][0]

res4w_out (Activation) (None, None, None, 1 0 add_29[0][0]

res5a_branch2a (Conv2D) (None, None, None, 5 524800 res4w_out[0][0]

bn5a_branch2a (BatchNorm) (None, None, None, 5 2048 res5a_branch2a[0][0]

activation_61 (Activation) (None, None, None, 5 0 bn5a_branch2a[0][0]

res5a_branch2b (Conv2D) (None, None, None, 5 2359808 activation_61[0][0]

bn5a_branch2b (BatchNorm) (None, None, None, 5 2048 res5a_branch2b[0][0]

activation_62 (Activation) (None, None, None, 5 0 bn5a_branch2b[0][0]

res5a_branch2c (Conv2D) (None, None, None, 2 1050624 activation_62[0][0]

res5a_branch1 (Conv2D) (None, None, None, 2 2099200 res4w_out[0][0]

bn5a_branch2c (BatchNorm) (None, None, None, 2 8192 res5a_branch2c[0][0]

bn5a_branch1 (BatchNorm) (None, None, None, 2 8192 res5a_branch1[0][0]

add_30 (Add) (None, None, None, 2 0 bn5a_branch2c[0][0]
bn5a_branch1[0][0]

res5a_out (Activation) (None, None, None, 2 0 add_30[0][0]

res5b_branch2a (Conv2D) (None, None, None, 5 1049088 res5a_out[0][0]

bn5b_branch2a (BatchNorm) (None, None, None, 5 2048 res5b_branch2a[0][0]

activation_63 (Activation) (None, None, None, 5 0 bn5b_branch2a[0][0]

res5b_branch2b (Conv2D)	(None, None, None, 5 2359808	activation_63[0][0]
bn5b_branch2b (BatchNorm)	(None, None, None, 5 2048	res5b_branch2b[0][0]
activation_64 (Activation)	(None, None, None, 5 0	bn5b_branch2b[0][0]
res5b_branch2c (Conv2D)	(None, None, None, 2 1050624	activation_64[0][0]
bn5b_branch2c (BatchNorm)	(None, None, None, 2 8192	res5b_branch2c[0][0]
add_31 (Add)	(None, None, None, 2 0	bn5b_branch2c[0][0] res5a_out[0][0]
res5b_out (Activation)	(None, None, None, 2 0	add_31[0][0]
res5c_branch2a (Conv2D)	(None, None, None, 5 1049088	res5b_out[0][0]
bn5c_branch2a (BatchNorm)	(None, None, None, 5 2048	res5c_branch2a[0][0]
activation_65 (Activation)	(None, None, None, 5 0	bn5c_branch2a[0][0]
res5c_branch2b (Conv2D)	(None, None, None, 5 2359808	activation_65[0][0]
bn5c_branch2b (BatchNorm)	(None, None, None, 5 2048	res5c_branch2b[0][0]
activation_66 (Activation)	(None, None, None, 5 0	bn5c_branch2b[0][0]
res5c_branch2c (Conv2D)	(None, None, None, 2 1050624	activation_66[0][0]
bn5c_branch2c (BatchNorm)	(None, None, None, 2 8192	res5c_branch2c[0][0]
add_32 (Add)	(None, None, None, 2 0	bn5c_branch2c[0][0] res5b_out[0][0]
res5c_out (Activation)	(None, None, None, 2 0	add_32[0][0]

fpn_c5p5 (Conv2D)	(None, None, None, 2 524544	res5c_out[0][0]
fpn_p5upsampled (UpSampling2D)	(None, None, None, 2 0	fpn_c5p5[0][0]
fpn_c4p4 (Conv2D)	(None, None, None, 2 262400	res4w_out[0][0]
fpn_p4add (Add)	(None, None, None, 2 0 fpn_c4p4[0][0]	fpn_p5upsampled[0][0]
fpn_p4upsampled (UpSampling2D)	(None, None, None, 2 0	fpn_p4add[0][0]
fpn_c3p3 (Conv2D)	(None, None, None, 2 131328	res3d_out[0][0]
fpn_p3add (Add)	(None, None, None, 2 0 fpn_c3p3[0][0]	fpn_p4upsampled[0][0]
fpn_p3upsampled (UpSampling2D)	(None, None, None, 2 0	fpn_p3add[0][0]
fpn_c2p2 (Conv2D)	(None, None, None, 2 65792	res2c_out[0][0]
fpn_p2add (Add)	(None, None, None, 2 0 fpn_c2p2[0][0]	fpn_p3upsampled[0][0]
fpn_p5 (Conv2D)	(None, None, None, 2 590080	fpn_c5p5[0][0]
fpn_p2 (Conv2D)	(None, None, None, 2 590080	fpn_p2add[0][0]
fpn_p3 (Conv2D)	(None, None, None, 2 590080	fpn_p3add[0][0]
fpn_p4 (Conv2D)	(None, None, None, 2 590080	fpn_p4add[0][0]
fpn_p6 (MaxPooling2D)	(None, None, None, 2 0	fpn_p5[0][0]
rpn_model (Functional)	[(None, None, 2), (N 1189394 fpn_p3[0][0] fpn_p4[0][0] fpn_p5[0][0]	fpn_p2[0][0]

			fpn_p6[0][0]	
<hr/>				
rpn_class (Concatenate)	(None, None, 2)	0	rpn_model[0][1]	
			rpn_model[1][1]	
			rpn_model[2][1]	
			rpn_model[3][1]	
			rpn_model[4][1]	
<hr/>				
rpn_bbox (Concatenate)	(None, None, 4)	0	rpn_model[0][2]	
			rpn_model[1][2]	
			rpn_model[2][2]	
			rpn_model[3][2]	
			rpn_model[4][2]	
<hr/>				
input_anchors (InputLayer)	[(None, None, 4)]	0		
<hr/>				
ROI (ProposalLayer)	(1, 1000, 4)	0	rpn_class[0][0]	
			rpn_bbox[0][0]	
			input_anchors[0][0]	
<hr/>				
input_image_meta (InputLayer)	[(None, 93)]	0		
<hr/>				
roi_align_classifier (PyramidRO	(1, 1000, 7, 7, 256)	0	ROI[0][0]	
			input_image_meta[0][0]	
			fpn_p2[0][0]	
			fpn_p3[0][0]	
			fpn_p4[0][0]	
			fpn_p5[0][0]	
<hr/>				
mrcnn_class_conv1 (TimeDistribu	(1, 1000, 1, 1, 1024	12846080	roi_align_classifier[0][0]	
<hr/>				
mrcnn_class_bn1 (TimeDistribute	(1, 1000, 1, 1, 1024	4096	mrcnn_class_conv1[0][0]	
<hr/>				
activation_67 (Activation)	(1, 1000, 1, 1, 1024	0	mrcnn_class_bn1[0][0]	
<hr/>				
mrcnn_class_conv2 (TimeDistribu	(1, 1000, 1, 1, 1024	1049600	activation_67[0][0]	
<hr/>				
mrcnn_class_bn2 (TimeDistribute	(1, 1000, 1, 1, 1024	4096	mrcnn_class_conv2[0][0]	
<hr/>				
activation_68 (Activation)	(1, 1000, 1, 1, 1024	0	mrcnn_class_bn2[0][0]	
<hr/>				
<hr/>				

pool_squeeze (Lambda)	(1, 1000, 1024)	0	activation_68[0][0]
mrcnn_class_logits (TimeDistrib	(1, 1000, 81)	83025	pool_squeeze[0][0]
mrcnn_bbox_fc (TimeDistributed)	(1, 1000, 324)	332100	pool_squeeze[0][0]
mrcnn_class (TimeDistributed)	(1, 1000, 81)	0	mrcnn_class_logits[0][0]
mrcnn_bbox (Reshape)	(1, 1000, 81, 4)	0	mrcnn_bbox_fc[0][0]
mrcnn_detection (DetectionLayer	(1, 100, 6)	0	ROI[0][0] mrcnn_class[0][0] mrcnn_bbox[0][0] input_image_meta[0][0]
lambda_2 (Lambda)	(1, 100, 4)	0	mrcnn_detection[0][0]
roi_align_mask (PyramidROIAlign	(1, 100, 14, 14, 256	0	lambda_2[0][0] input_image_meta[0][0] fpn_p2[0][0] fpn_p3[0][0] fpn_p4[0][0] fpn_p5[0][0]
mrcnn_mask_conv1 (TimeDistribut	(1, 100, 14, 14, 256	590080	roi_align_mask[0][0]
mrcnn_mask_bn1 (TimeDistributed	(1, 100, 14, 14, 256	1024	mrcnn_mask_conv1[0][0]
activation_70 (Activation)	(1, 100, 14, 14, 256	0	mrcnn_mask_bn1[0][0]
mrcnn_mask_conv2 (TimeDistribut	(1, 100, 14, 14, 256	590080	activation_70[0][0]
mrcnn_mask_bn2 (TimeDistributed	(1, 100, 14, 14, 256	1024	mrcnn_mask_conv2[0][0]
activation_71 (Activation)	(1, 100, 14, 14, 256	0	mrcnn_mask_bn2[0][0]
mrcnn_mask_conv3 (TimeDistribut	(1, 100, 14, 14, 256	590080	activation_71[0][0]
mrcnn_mask_bn3 (TimeDistributed	(1, 100, 14, 14, 256	1024	mrcnn_mask_conv3[0][0]

activation_72 (Activation)	(1, 100, 14, 14, 256 0	mrcnn_mask_bn3[0][0]
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mrcnn_mask_conv4 (TimeDistribut	(1, 100, 14, 14, 256 590080	activation_72[0][0]
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mrcnn_mask_bn4 (TimeDistributed	(1, 100, 14, 14, 256 1024	mrcnn_mask_conv4[0][0]
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activation_73 (Activation)	(1, 100, 14, 14, 256 0	mrcnn_mask_bn4[0][0]
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mrcnn_mask_deconv (TimeDistribu	(1, 100, 28, 28, 256 262400	activation_73[0][0]
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mrcnn_mask (TimeDistributed)	(1, 100, 28, 28, 81) 20817	mrcnn_mask_deconv[0][0]
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Total params: 64,158,584

Trainable params: 64,047,096

Non-trainable params: 111,488

Mask R-CNN config parameters:

Configurations:

BACKBONE	resnet101
BACKBONE_STRIDES	[4, 8, 16, 32, 64]
BATCH_SIZE	1
BBOX_STD_DEV	[0.1 0.1 0.2 0.2]
COMPUTE_BACKBONE_SHAPE	None
DETECTION_MAX_INSTANCES	100
DETECTION_MIN_CONFIDENCE	0.7
DETECTION_NMS_THRESHOLD	0.3
FPN_CLASSIF_FC_LAYERS_SIZE	1024
GPU_COUNT	1
GRADIENT_CLIP_NORM	5.0
IMAGES_PER_GPU	1
IMAGE_CHANNEL_COUNT	3
IMAGE_MAX_DIM	1024
IMAGE_META_SIZE	93
IMAGE_MIN_DIM	800
IMAGE_MIN_SCALE	0
IMAGE_RESIZE_MODE	square
IMAGE_SHAPE	[1024 1024 3]
LEARNING_MOMENTUM	0.9
LEARNING_RATE	0.001
LOSS_WEIGHTS	{'rpn_class_loss': 1.0, 'rpn_bbox_loss': 1.0, 'mrcnn_class_loss': 1.0, 'mrcnn_bbox_loss': 1.0, 'mrcnn_mask_loss': 1.0}
MASK_POOL_SIZE	14
MASK_SHAPE	[28, 28]
MAX_GT_INSTANCES	100
MEAN_PIXEL	[123.7 116.8 103.9]
MINI_MASK_SHAPE	(56, 56)
NAME	coco
NUM_CLASSES	81
POOL_SIZE	7
POST_NMS_ROIS_INFERENCE	1000
POST_NMS_ROIS_TRAINING	2000
PRE_NMS_LIMIT	6000
ROI_POSITIVE_RATIO	0.33
RPN_ANCHOR_RATIOS	[0.5, 1, 2]
RPN_ANCHOR_SCALES	(32, 64, 128, 256, 512)
RPN_ANCHOR_STRIDE	1
RPN_BBOX_STD_DEV	[0.1 0.1 0.2 0.2]
RPN_NMS_THRESHOLD	0.7
RPN_TRAIN_ANCHORS_PER_IMAGE	256
STEPS_PER_EPOCH	1000
TOP_DOWN_PYRAMID_SIZE	256

TRAIN_BN	False
TRAIN_ROIS_PER_IMAGE	200
USE_MINI_MASK	True
USE_RPN_ROIS	True
VALIDATION_STEPS	50
WEIGHT_DECAY	0.0001