###Model 6

metrics = [sm.metrics.IOUScore(threshold=0.5), sm.metrics.FScore(threshold=0.5)]

#Reused parameters in all models

n\_classes=1

activation='sigmoid'

LR = 0.0001

optim = tf.keras.optimizers.Adam(LR)

BACKBONE6 = 'densenet201'

preprocess\_input6 = sm.get\_preprocessing(BACKBONE6)

# preprocess input

X\_train6 = preprocess\_input6(X1)

X\_test6 = preprocess\_input6(X\_test)

# define model

model6 = sm.Unet(BACKBONE6, encoder\_weights='imagenet', classes=n\_classes, activation=activation)

# compile keras model with defined optimozer, loss and metrics

model6.compile(optim, loss='binary\_crossentropy', metrics=metrics)

#model3.compile(optimizer='adam', loss='categorical\_crossentropy', metrics=metrics)

history6=model6.fit(X1,

y1,

batch\_size=8,

epochs=50,

verbose=1,

validation\_data=(X\_test, y\_test))

Epoch 1/50

10/10 [==============================] - 137s 8s/step - loss: 0.5628 - iou\_score: 0.0962 - f1-score: 0.1716 - val\_loss: 3.8589 - val\_iou\_score: 0.0705 - val\_f1-score: 0.1317

Epoch 2/50

10/10 [==============================] - 80s 8s/step - loss: 0.3921 - iou\_score: 0.1754 - f1-score: 0.2918 - val\_loss: 9.8863 - val\_iou\_score: 0.0702 - val\_f1-score: 0.1312

Epoch 3/50

10/10 [==============================] - 78s 8s/step - loss: 0.3067 - iou\_score: 0.1935 - f1-score: 0.3206 - val\_loss: 4.9410 - val\_iou\_score: 0.0574 - val\_f1-score: 0.1078

Epoch 4/50

10/10 [==============================] - 84s 8s/step - loss: 0.2604 - iou\_score: 0.2259 - f1-score: 0.3650 - val\_loss: 2.6980 - val\_iou\_score: 0.0699 - val\_f1-score: 0.1295

Epoch 5/50

10/10 [==============================] - 80s 8s/step - loss: 0.2305 - iou\_score: 0.1727 - f1-score: 0.2867 - val\_loss: 0.7170 - val\_iou\_score: 0.0794 - val\_f1-score: 0.1468

Epoch 6/50

10/10 [==============================] - 80s 8s/step - loss: 0.2081 - iou\_score: 0.2155 - f1-score: 0.3489 - val\_loss: 0.7099 - val\_iou\_score: 0.0824 - val\_f1-score: 0.1522

Epoch 7/50

10/10 [==============================] - 80s 8s/step - loss: 0.1918 - iou\_score: 0.2880 - f1-score: 0.4420 - val\_loss: 0.6888 - val\_iou\_score: 0.1206 - val\_f1-score: 0.2148

Epoch 8/50

10/10 [==============================] - 80s 8s/step - loss: 0.1737 - iou\_score: 0.3379 - f1-score: 0.5016 - val\_loss: 0.5102 - val\_iou\_score: 0.3624 - val\_f1-score: 0.5319

Epoch 9/50

10/10 [==============================] - 80s 8s/step - loss: 0.1703 - iou\_score: 0.3079 - f1-score: 0.4628 - val\_loss: 0.4153 - val\_iou\_score: 0.1872 - val\_f1-score: 0.3150

Epoch 10/50

10/10 [==============================] - 80s 8s/step - loss: 0.1543 - iou\_score: 0.3633 - f1-score: 0.5277 - val\_loss: 0.3319 - val\_iou\_score: 0.2661 - val\_f1-score: 0.4172

Epoch 11/50

10/10 [==============================] - 79s 8s/step - loss: 0.1486 - iou\_score: 0.4056 - f1-score: 0.5733 - val\_loss: 0.3134 - val\_iou\_score: 0.3059 - val\_f1-score: 0.4617

Epoch 12/50

10/10 [==============================] - 83s 8s/step - loss: 0.1430 - iou\_score: 0.4846 - f1-score: 0.6431 - val\_loss: 0.3072 - val\_iou\_score: 0.3328 - val\_f1-score: 0.4985

Epoch 13/50

10/10 [==============================] - 79s 8s/step - loss: 0.1348 - iou\_score: 0.5715 - f1-score: 0.7253 - val\_loss: 0.2396 - val\_iou\_score: 0.3199 - val\_f1-score: 0.4771

Epoch 14/50

10/10 [==============================] - 79s 8s/step - loss: 0.1346 - iou\_score: 0.4994 - f1-score: 0.6618 - val\_loss: 0.2223 - val\_iou\_score: 0.3127 - val\_f1-score: 0.4512

Epoch 15/50

10/10 [==============================] - 79s 8s/step - loss: 0.1264 - iou\_score: 0.5760 - f1-score: 0.7264 - val\_loss: 0.2155 - val\_iou\_score: 0.3838 - val\_f1-score: 0.5440

Epoch 16/50

10/10 [==============================] - 80s 8s/step - loss: 0.1181 - iou\_score: 0.6048 - f1-score: 0.7511 - val\_loss: 0.1925 - val\_iou\_score: 0.3993 - val\_f1-score: 0.5552

Epoch 17/50

10/10 [==============================] - 79s 8s/step - loss: 0.1116 - iou\_score: 0.6124 - f1-score: 0.7555 - val\_loss: 0.1999 - val\_iou\_score: 0.3281 - val\_f1-score: 0.4487

Epoch 18/50

10/10 [==============================] - 79s 8s/step - loss: 0.1056 - iou\_score: 0.6077 - f1-score: 0.7385 - val\_loss: 0.1668 - val\_iou\_score: 0.3519 - val\_f1-score: 0.4749

Epoch 19/50

10/10 [==============================] - 82s 8s/step - loss: 0.1002 - iou\_score: 0.6307 - f1-score: 0.7686 - val\_loss: 0.1584 - val\_iou\_score: 0.3276 - val\_f1-score: 0.4287

Epoch 20/50

10/10 [==============================] - 80s 8s/step - loss: 0.0987 - iou\_score: 0.6184 - f1-score: 0.7526 - val\_loss: 0.1622 - val\_iou\_score: 0.4223 - val\_f1-score: 0.5720

Epoch 21/50

10/10 [==============================] - 80s 8s/step - loss: 0.0952 - iou\_score: 0.6267 - f1-score: 0.7668 - val\_loss: 0.1638 - val\_iou\_score: 0.3907 - val\_f1-score: 0.5258

Epoch 22/50

10/10 [==============================] - 80s 8s/step - loss: 0.0902 - iou\_score: 0.6859 - f1-score: 0.8103 - val\_loss: 0.1405 - val\_iou\_score: 0.4050 - val\_f1-score: 0.5403

Epoch 23/50

10/10 [==============================] - 80s 8s/step - loss: 0.0849 - iou\_score: 0.6934 - f1-score: 0.8165 - val\_loss: 0.1357 - val\_iou\_score: 0.3743 - val\_f1-score: 0.4974

Epoch 24/50

10/10 [==============================] - 80s 8s/step - loss: 0.0878 - iou\_score: 0.6826 - f1-score: 0.8091 - val\_loss: 0.1484 - val\_iou\_score: 0.3927 - val\_f1-score: 0.5344

Epoch 25/50

10/10 [==============================] - 79s 8s/step - loss: 0.0856 - iou\_score: 0.6766 - f1-score: 0.8042 - val\_loss: 0.1432 - val\_iou\_score: 0.3625 - val\_f1-score: 0.4790

Epoch 26/50

10/10 [==============================] - 79s 8s/step - loss: 0.0797 - iou\_score: 0.6712 - f1-score: 0.7950 - val\_loss: 0.1391 - val\_iou\_score: 0.3633 - val\_f1-score: 0.4741

Epoch 27/50

10/10 [==============================] - 79s 8s/step - loss: 0.0793 - iou\_score: 0.6677 - f1-score: 0.7964 - val\_loss: 0.1280 - val\_iou\_score: 0.4272 - val\_f1-score: 0.5662

Epoch 28/50

10/10 [==============================] - 78s 8s/step - loss: 0.0800 - iou\_score: 0.6756 - f1-score: 0.8039 - val\_loss: 0.1388 - val\_iou\_score: 0.3894 - val\_f1-score: 0.5134

Epoch 29/50

10/10 [==============================] - 79s 8s/step - loss: 0.0777 - iou\_score: 0.6981 - f1-score: 0.8185 - val\_loss: 0.1427 - val\_iou\_score: 0.3499 - val\_f1-score: 0.4565

Epoch 30/50

10/10 [==============================] - 82s 8s/step - loss: 0.0761 - iou\_score: 0.6546 - f1-score: 0.7855 - val\_loss: 0.1392 - val\_iou\_score: 0.3851 - val\_f1-score: 0.5168

Epoch 31/50

10/10 [==============================] - 81s 8s/step - loss: 0.0705 - iou\_score: 0.7361 - f1-score: 0.8463 - val\_loss: 0.1399 - val\_iou\_score: 0.3918 - val\_f1-score: 0.5286

Epoch 32/50

10/10 [==============================] - 81s 8s/step - loss: 0.0693 - iou\_score: 0.7017 - f1-score: 0.8184 - val\_loss: 0.1301 - val\_iou\_score: 0.3891 - val\_f1-score: 0.5144

Epoch 33/50

10/10 [==============================] - 84s 8s/step - loss: 0.0653 - iou\_score: 0.7395 - f1-score: 0.8482 - val\_loss: 0.1253 - val\_iou\_score: 0.3946 - val\_f1-score: 0.5235

Epoch 34/50

10/10 [==============================] - 85s 8s/step - loss: 0.0650 - iou\_score: 0.7255 - f1-score: 0.8390 - val\_loss: 0.1266 - val\_iou\_score: 0.3924 - val\_f1-score: 0.5174

Epoch 35/50

10/10 [==============================] - 85s 8s/step - loss: 0.0616 - iou\_score: 0.7479 - f1-score: 0.8542 - val\_loss: 0.1470 - val\_iou\_score: 0.3833 - val\_f1-score: 0.5062

Epoch 36/50

10/10 [==============================] - 82s 8s/step - loss: 0.0601 - iou\_score: 0.7574 - f1-score: 0.8598 - val\_loss: 0.1398 - val\_iou\_score: 0.3949 - val\_f1-score: 0.5152

Epoch 37/50

10/10 [==============================] - 80s 8s/step - loss: 0.0571 - iou\_score: 0.7743 - f1-score: 0.8713 - val\_loss: 0.1357 - val\_iou\_score: 0.4141 - val\_f1-score: 0.5468

Epoch 38/50

10/10 [==============================] - 80s 8s/step - loss: 0.0590 - iou\_score: 0.7320 - f1-score: 0.8412 - val\_loss: 0.1292 - val\_iou\_score: 0.3978 - val\_f1-score: 0.5224

Epoch 39/50

10/10 [==============================] - 80s 8s/step - loss: 0.0583 - iou\_score: 0.7454 - f1-score: 0.8526 - val\_loss: 0.1395 - val\_iou\_score: 0.4011 - val\_f1-score: 0.5275

Epoch 40/50

10/10 [==============================] - 81s 8s/step - loss: 0.0581 - iou\_score: 0.7326 - f1-score: 0.8404 - val\_loss: 0.1702 - val\_iou\_score: 0.3978 - val\_f1-score: 0.5242

Epoch 41/50

10/10 [==============================] - 81s 8s/step - loss: 0.0555 - iou\_score: 0.7545 - f1-score: 0.8580 - val\_loss: 0.1468 - val\_iou\_score: 0.3868 - val\_f1-score: 0.5124

Epoch 42/50

10/10 [==============================] - 81s 8s/step - loss: 0.0592 - iou\_score: 0.7412 - f1-score: 0.8489 - val\_loss: 0.1401 - val\_iou\_score: 0.3670 - val\_f1-score: 0.4868

Epoch 43/50

10/10 [==============================] - 81s 8s/step - loss: 0.0687 - iou\_score: 0.6792 - f1-score: 0.8050 - val\_loss: 0.1739 - val\_iou\_score: 0.3777 - val\_f1-score: 0.5082

Epoch 44/50

10/10 [==============================] - 81s 8s/step - loss: 0.0620 - iou\_score: 0.7143 - f1-score: 0.8315 - val\_loss: 0.1707 - val\_iou\_score: 0.3479 - val\_f1-score: 0.4757

Epoch 45/50

10/10 [==============================] - 80s 8s/step - loss: 0.0549 - iou\_score: 0.7464 - f1-score: 0.8536 - val\_loss: 0.1645 - val\_iou\_score: 0.3502 - val\_f1-score: 0.4913

Epoch 46/50

10/10 [==============================] - 81s 8s/step - loss: 0.0555 - iou\_score: 0.7513 - f1-score: 0.8554 - val\_loss: 0.1776 - val\_iou\_score: 0.3618 - val\_f1-score: 0.5026

Epoch 47/50

10/10 [==============================] - 80s 8s/step - loss: 0.0538 - iou\_score: 0.7249 - f1-score: 0.8323 - val\_loss: 0.1679 - val\_iou\_score: 0.3740 - val\_f1-score: 0.4990

Epoch 48/50

10/10 [==============================] - 85s 8s/step - loss: 0.0514 - iou\_score: 0.7666 - f1-score: 0.8665 - val\_loss: 0.1465 - val\_iou\_score: 0.3668 - val\_f1-score: 0.4989

Epoch 49/50

10/10 [==============================] - 86s 8s/step - loss: 0.0519 - iou\_score: 0.7527 - f1-score: 0.8557 - val\_loss: 0.1529 - val\_iou\_score: 0.3512 - val\_f1-score: 0.4769

Epoch 50/50

10/10 [==============================] - 81s 8s/step - loss: 0.0519 - iou\_score: 0.7211 - f1-score: 0.8302 - val\_loss: 0.1412 - val\_iou\_score: 0.3683 - val\_f1-score: 0.4972

print(model6.summary())

Downloading data from<https://github.com/keras-team/keras-applications/releases/download/densenet/densenet201_weights_tf_dim_ordering_tf_kernels_notop.h5>

74842112/74836368 [==============================] - 2s 0us/step

74850304/74836368 [==============================] - 2s 0us/step

Model: "model\_1"

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

Layer (type) Output Shape Param # Connected to

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

input\_9 (InputLayer) [(None, None, None, 0 []

3)]

zero\_padding2d (ZeroPadding2D) (None, None, None, 0 ['input\_9[0][0]']

3)

conv1/conv (Conv2D) (None, None, None, 9408 ['zero\_padding2d[0][0]']

64)

conv1/bn (BatchNormalization) (None, None, None, 256 ['conv1/conv[0][0]']

64)

conv1/relu (Activation) (None, None, None, 0 ['conv1/bn[0][0]']

64)

zero\_padding2d\_1 (ZeroPadding2 (None, None, None, 0 ['conv1/relu[0][0]']

D) 64)

pool1 (MaxPooling2D) (None, None, None, 0 ['zero\_padding2d\_1[0][0]']

64)

conv2\_block1\_0\_bn (BatchNormal (None, None, None, 256 ['pool1[0][0]']

ization) 64)

conv2\_block1\_0\_relu (Activatio (None, None, None, 0 ['conv2\_block1\_0\_bn[0][0]']

n) 64)

conv2\_block1\_1\_conv (Conv2D) (None, None, None, 8192 ['conv2\_block1\_0\_relu[0][0]']

128)

conv2\_block1\_1\_bn (BatchNormal (None, None, None, 512 ['conv2\_block1\_1\_conv[0][0]']

ization) 128)

conv2\_block1\_1\_relu (Activatio (None, None, None, 0 ['conv2\_block1\_1\_bn[0][0]']

n) 128)

conv2\_block1\_2\_conv (Conv2D) (None, None, None, 36864 ['conv2\_block1\_1\_relu[0][0]']

32)

conv2\_block1\_concat (Concatena (None, None, None, 0 ['pool1[0][0]',

te) 96) 'conv2\_block1\_2\_conv[0][0]']

conv2\_block2\_0\_bn (BatchNormal (None, None, None, 384 ['conv2\_block1\_concat[0][0]']

ization) 96)

conv2\_block2\_0\_relu (Activatio (None, None, None, 0 ['conv2\_block2\_0\_bn[0][0]']

n) 96)

conv2\_block2\_1\_conv (Conv2D) (None, None, None, 12288 ['conv2\_block2\_0\_relu[0][0]']

128)

conv2\_block2\_1\_bn (BatchNormal (None, None, None, 512 ['conv2\_block2\_1\_conv[0][0]']

ization) 128)

conv2\_block2\_1\_relu (Activatio (None, None, None, 0 ['conv2\_block2\_1\_bn[0][0]']

n) 128)

conv2\_block2\_2\_conv (Conv2D) (None, None, None, 36864 ['conv2\_block2\_1\_relu[0][0]']

32)

conv2\_block2\_concat (Concatena (None, None, None, 0 ['conv2\_block1\_concat[0][0]',

te) 128) 'conv2\_block2\_2\_conv[0][0]']

conv2\_block3\_0\_bn (BatchNormal (None, None, None, 512 ['conv2\_block2\_concat[0][0]']

ization) 128)

conv2\_block3\_0\_relu (Activatio (None, None, None, 0 ['conv2\_block3\_0\_bn[0][0]']

n) 128)

conv2\_block3\_1\_conv (Conv2D) (None, None, None, 16384 ['conv2\_block3\_0\_relu[0][0]']

128)

conv2\_block3\_1\_bn (BatchNormal (None, None, None, 512 ['conv2\_block3\_1\_conv[0][0]']

ization) 128)

conv2\_block3\_1\_relu (Activatio (None, None, None, 0 ['conv2\_block3\_1\_bn[0][0]']

n) 128)

conv2\_block3\_2\_conv (Conv2D) (None, None, None, 36864 ['conv2\_block3\_1\_relu[0][0]']

32)

conv2\_block3\_concat (Concatena (None, None, None, 0 ['conv2\_block2\_concat[0][0]',

te) 160) 'conv2\_block3\_2\_conv[0][0]']

conv2\_block4\_0\_bn (BatchNormal (None, None, None, 640 ['conv2\_block3\_concat[0][0]']

ization) 160)

conv2\_block4\_0\_relu (Activatio (None, None, None, 0 ['conv2\_block4\_0\_bn[0][0]']

n) 160)

conv2\_block4\_1\_conv (Conv2D) (None, None, None, 20480 ['conv2\_block4\_0\_relu[0][0]']

128)

conv2\_block4\_1\_bn (BatchNormal (None, None, None, 512 ['conv2\_block4\_1\_conv[0][0]']

ization) 128)

conv2\_block4\_1\_relu (Activatio (None, None, None, 0 ['conv2\_block4\_1\_bn[0][0]']

n) 128)

conv2\_block4\_2\_conv (Conv2D) (None, None, None, 36864 ['conv2\_block4\_1\_relu[0][0]']

32)

conv2\_block4\_concat (Concatena (None, None, None, 0 ['conv2\_block3\_concat[0][0]',

te) 192) 'conv2\_block4\_2\_conv[0][0]']

conv2\_block5\_0\_bn (BatchNormal (None, None, None, 768 ['conv2\_block4\_concat[0][0]']

ization) 192)

conv2\_block5\_0\_relu (Activatio (None, None, None, 0 ['conv2\_block5\_0\_bn[0][0]']

n) 192)

conv2\_block5\_1\_conv (Conv2D) (None, None, None, 24576 ['conv2\_block5\_0\_relu[0][0]']

128)

conv2\_block5\_1\_bn (BatchNormal (None, None, None, 512 ['conv2\_block5\_1\_conv[0][0]']

ization) 128)

conv2\_block5\_1\_relu (Activatio (None, None, None, 0 ['conv2\_block5\_1\_bn[0][0]']

n) 128)

conv2\_block5\_2\_conv (Conv2D) (None, None, None, 36864 ['conv2\_block5\_1\_relu[0][0]']

32)

conv2\_block5\_concat (Concatena (None, None, None, 0 ['conv2\_block4\_concat[0][0]',

te) 224) 'conv2\_block5\_2\_conv[0][0]']

conv2\_block6\_0\_bn (BatchNormal (None, None, None, 896 ['conv2\_block5\_concat[0][0]']

ization) 224)

conv2\_block6\_0\_relu (Activatio (None, None, None, 0 ['conv2\_block6\_0\_bn[0][0]']

n) 224)

conv2\_block6\_1\_conv (Conv2D) (None, None, None, 28672 ['conv2\_block6\_0\_relu[0][0]']

128)

conv2\_block6\_1\_bn (BatchNormal (None, None, None, 512 ['conv2\_block6\_1\_conv[0][0]']

ization) 128)

conv2\_block6\_1\_relu (Activatio (None, None, None, 0 ['conv2\_block6\_1\_bn[0][0]']

n) 128)

conv2\_block6\_2\_conv (Conv2D) (None, None, None, 36864 ['conv2\_block6\_1\_relu[0][0]']

32)

conv2\_block6\_concat (Concatena (None, None, None, 0 ['conv2\_block5\_concat[0][0]',

te) 256) 'conv2\_block6\_2\_conv[0][0]']

pool2\_bn (BatchNormalization) (None, None, None, 1024 ['conv2\_block6\_concat[0][0]']

256)

pool2\_relu (Activation) (None, None, None, 0 ['pool2\_bn[0][0]']

256)

pool2\_conv (Conv2D) (None, None, None, 32768 ['pool2\_relu[0][0]']

128)

pool2\_pool (AveragePooling2D) (None, None, None, 0 ['pool2\_conv[0][0]']

128)

conv3\_block1\_0\_bn (BatchNormal (None, None, None, 512 ['pool2\_pool[0][0]']

ization) 128)

conv3\_block1\_0\_relu (Activatio (None, None, None, 0 ['conv3\_block1\_0\_bn[0][0]']

n) 128)

conv3\_block1\_1\_conv (Conv2D) (None, None, None, 16384 ['conv3\_block1\_0\_relu[0][0]']

128)

conv3\_block1\_1\_bn (BatchNormal (None, None, None, 512 ['conv3\_block1\_1\_conv[0][0]']

ization) 128)

conv3\_block1\_1\_relu (Activatio (None, None, None, 0 ['conv3\_block1\_1\_bn[0][0]']

n) 128)

conv3\_block1\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block1\_1\_relu[0][0]']

32)

conv3\_block1\_concat (Concatena (None, None, None, 0 ['pool2\_pool[0][0]',

te) 160) 'conv3\_block1\_2\_conv[0][0]']

conv3\_block2\_0\_bn (BatchNormal (None, None, None, 640 ['conv3\_block1\_concat[0][0]']

ization) 160)

conv3\_block2\_0\_relu (Activatio (None, None, None, 0 ['conv3\_block2\_0\_bn[0][0]']

n) 160)

conv3\_block2\_1\_conv (Conv2D) (None, None, None, 20480 ['conv3\_block2\_0\_relu[0][0]']

128)

conv3\_block2\_1\_bn (BatchNormal (None, None, None, 512 ['conv3\_block2\_1\_conv[0][0]']

ization) 128)

conv3\_block2\_1\_relu (Activatio (None, None, None, 0 ['conv3\_block2\_1\_bn[0][0]']

n) 128)

conv3\_block2\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block2\_1\_relu[0][0]']

32)

conv3\_block2\_concat (Concatena (None, None, None, 0 ['conv3\_block1\_concat[0][0]',

te) 192) 'conv3\_block2\_2\_conv[0][0]']

conv3\_block3\_0\_bn (BatchNormal (None, None, None, 768 ['conv3\_block2\_concat[0][0]']

ization) 192)

conv3\_block3\_0\_relu (Activatio (None, None, None, 0 ['conv3\_block3\_0\_bn[0][0]']

n) 192)

conv3\_block3\_1\_conv (Conv2D) (None, None, None, 24576 ['conv3\_block3\_0\_relu[0][0]']

128)

conv3\_block3\_1\_bn (BatchNormal (None, None, None, 512 ['conv3\_block3\_1\_conv[0][0]']

ization) 128)

conv3\_block3\_1\_relu (Activatio (None, None, None, 0 ['conv3\_block3\_1\_bn[0][0]']

n) 128)

conv3\_block3\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block3\_1\_relu[0][0]']

32)

conv3\_block3\_concat (Concatena (None, None, None, 0 ['conv3\_block2\_concat[0][0]',

te) 224) 'conv3\_block3\_2\_conv[0][0]']

conv3\_block4\_0\_bn (BatchNormal (None, None, None, 896 ['conv3\_block3\_concat[0][0]']

ization) 224)

conv3\_block4\_0\_relu (Activatio (None, None, None, 0 ['conv3\_block4\_0\_bn[0][0]']

n) 224)

conv3\_block4\_1\_conv (Conv2D) (None, None, None, 28672 ['conv3\_block4\_0\_relu[0][0]']

128)

conv3\_block4\_1\_bn (BatchNormal (None, None, None, 512 ['conv3\_block4\_1\_conv[0][0]']

ization) 128)

conv3\_block4\_1\_relu (Activatio (None, None, None, 0 ['conv3\_block4\_1\_bn[0][0]']

n) 128)

conv3\_block4\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block4\_1\_relu[0][0]']

32)

conv3\_block4\_concat (Concatena (None, None, None, 0 ['conv3\_block3\_concat[0][0]',

te) 256) 'conv3\_block4\_2\_conv[0][0]']

conv3\_block5\_0\_bn (BatchNormal (None, None, None, 1024 ['conv3\_block4\_concat[0][0]']

ization) 256)

conv3\_block5\_0\_relu (Activatio (None, None, None, 0 ['conv3\_block5\_0\_bn[0][0]']

n) 256)

conv3\_block5\_1\_conv (Conv2D) (None, None, None, 32768 ['conv3\_block5\_0\_relu[0][0]']

128)

conv3\_block5\_1\_bn (BatchNormal (None, None, None, 512 ['conv3\_block5\_1\_conv[0][0]']

ization) 128)

conv3\_block5\_1\_relu (Activatio (None, None, None, 0 ['conv3\_block5\_1\_bn[0][0]']

n) 128)

conv3\_block5\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block5\_1\_relu[0][0]']

32)

conv3\_block5\_concat (Concatena (None, None, None, 0 ['conv3\_block4\_concat[0][0]',

te) 288) 'conv3\_block5\_2\_conv[0][0]']

conv3\_block6\_0\_bn (BatchNormal (None, None, None, 1152 ['conv3\_block5\_concat[0][0]']

ization) 288)

conv3\_block6\_0\_relu (Activatio (None, None, None, 0 ['conv3\_block6\_0\_bn[0][0]']

n) 288)

conv3\_block6\_1\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block6\_0\_relu[0][0]']

128)

conv3\_block6\_1\_bn (BatchNormal (None, None, None, 512 ['conv3\_block6\_1\_conv[0][0]']

ization) 128)

conv3\_block6\_1\_relu (Activatio (None, None, None, 0 ['conv3\_block6\_1\_bn[0][0]']

n) 128)

conv3\_block6\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block6\_1\_relu[0][0]']

32)

conv3\_block6\_concat (Concatena (None, None, None, 0 ['conv3\_block5\_concat[0][0]',

te) 320) 'conv3\_block6\_2\_conv[0][0]']

conv3\_block7\_0\_bn (BatchNormal (None, None, None, 1280 ['conv3\_block6\_concat[0][0]']

ization) 320)

conv3\_block7\_0\_relu (Activatio (None, None, None, 0 ['conv3\_block7\_0\_bn[0][0]']

n) 320)

conv3\_block7\_1\_conv (Conv2D) (None, None, None, 40960 ['conv3\_block7\_0\_relu[0][0]']

128)

conv3\_block7\_1\_bn (BatchNormal (None, None, None, 512 ['conv3\_block7\_1\_conv[0][0]']

ization) 128)

conv3\_block7\_1\_relu (Activatio (None, None, None, 0 ['conv3\_block7\_1\_bn[0][0]']

n) 128)

conv3\_block7\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block7\_1\_relu[0][0]']

32)

conv3\_block7\_concat (Concatena (None, None, None, 0 ['conv3\_block6\_concat[0][0]',

te) 352) 'conv3\_block7\_2\_conv[0][0]']

conv3\_block8\_0\_bn (BatchNormal (None, None, None, 1408 ['conv3\_block7\_concat[0][0]']

ization) 352)

conv3\_block8\_0\_relu (Activatio (None, None, None, 0 ['conv3\_block8\_0\_bn[0][0]']

n) 352)

conv3\_block8\_1\_conv (Conv2D) (None, None, None, 45056 ['conv3\_block8\_0\_relu[0][0]']

128)

conv3\_block8\_1\_bn (BatchNormal (None, None, None, 512 ['conv3\_block8\_1\_conv[0][0]']

ization) 128)

conv3\_block8\_1\_relu (Activatio (None, None, None, 0 ['conv3\_block8\_1\_bn[0][0]']

n) 128)

conv3\_block8\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block8\_1\_relu[0][0]']

32)

conv3\_block8\_concat (Concatena (None, None, None, 0 ['conv3\_block7\_concat[0][0]',

te) 384) 'conv3\_block8\_2\_conv[0][0]']

conv3\_block9\_0\_bn (BatchNormal (None, None, None, 1536 ['conv3\_block8\_concat[0][0]']

ization) 384)

conv3\_block9\_0\_relu (Activatio (None, None, None, 0 ['conv3\_block9\_0\_bn[0][0]']

n) 384)

conv3\_block9\_1\_conv (Conv2D) (None, None, None, 49152 ['conv3\_block9\_0\_relu[0][0]']

128)

conv3\_block9\_1\_bn (BatchNormal (None, None, None, 512 ['conv3\_block9\_1\_conv[0][0]']

ization) 128)

conv3\_block9\_1\_relu (Activatio (None, None, None, 0 ['conv3\_block9\_1\_bn[0][0]']

n) 128)

conv3\_block9\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block9\_1\_relu[0][0]']

32)

conv3\_block9\_concat (Concatena (None, None, None, 0 ['conv3\_block8\_concat[0][0]',

te) 416) 'conv3\_block9\_2\_conv[0][0]']

conv3\_block10\_0\_bn (BatchNorma (None, None, None, 1664 ['conv3\_block9\_concat[0][0]']

lization) 416)

conv3\_block10\_0\_relu (Activati (None, None, None, 0 ['conv3\_block10\_0\_bn[0][0]']

on) 416)

conv3\_block10\_1\_conv (Conv2D) (None, None, None, 53248 ['conv3\_block10\_0\_relu[0][0]']

128)

conv3\_block10\_1\_bn (BatchNorma (None, None, None, 512 ['conv3\_block10\_1\_conv[0][0]']

lization) 128)

conv3\_block10\_1\_relu (Activati (None, None, None, 0 ['conv3\_block10\_1\_bn[0][0]']

on) 128)

conv3\_block10\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block10\_1\_relu[0][0]']

32)

conv3\_block10\_concat (Concaten (None, None, None, 0 ['conv3\_block9\_concat[0][0]',

ate) 448) 'conv3\_block10\_2\_conv[0][0]']

conv3\_block11\_0\_bn (BatchNorma (None, None, None, 1792 ['conv3\_block10\_concat[0][0]']

lization) 448)

conv3\_block11\_0\_relu (Activati (None, None, None, 0 ['conv3\_block11\_0\_bn[0][0]']

on) 448)

conv3\_block11\_1\_conv (Conv2D) (None, None, None, 57344 ['conv3\_block11\_0\_relu[0][0]']

128)

conv3\_block11\_1\_bn (BatchNorma (None, None, None, 512 ['conv3\_block11\_1\_conv[0][0]']

lization) 128)

conv3\_block11\_1\_relu (Activati (None, None, None, 0 ['conv3\_block11\_1\_bn[0][0]']

on) 128)

conv3\_block11\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block11\_1\_relu[0][0]']

32)

conv3\_block11\_concat (Concaten (None, None, None, 0 ['conv3\_block10\_concat[0][0]',

ate) 480) 'conv3\_block11\_2\_conv[0][0]']

conv3\_block12\_0\_bn (BatchNorma (None, None, None, 1920 ['conv3\_block11\_concat[0][0]']

lization) 480)

conv3\_block12\_0\_relu (Activati (None, None, None, 0 ['conv3\_block12\_0\_bn[0][0]']

on) 480)

conv3\_block12\_1\_conv (Conv2D) (None, None, None, 61440 ['conv3\_block12\_0\_relu[0][0]']

128)

conv3\_block12\_1\_bn (BatchNorma (None, None, None, 512 ['conv3\_block12\_1\_conv[0][0]']

lization) 128)

conv3\_block12\_1\_relu (Activati (None, None, None, 0 ['conv3\_block12\_1\_bn[0][0]']

on) 128)

conv3\_block12\_2\_conv (Conv2D) (None, None, None, 36864 ['conv3\_block12\_1\_relu[0][0]']

32)

conv3\_block12\_concat (Concaten (None, None, None, 0 ['conv3\_block11\_concat[0][0]',

ate) 512) 'conv3\_block12\_2\_conv[0][0]']

pool3\_bn (BatchNormalization) (None, None, None, 2048 ['conv3\_block12\_concat[0][0]']

512)

pool3\_relu (Activation) (None, None, None, 0 ['pool3\_bn[0][0]']

512)

pool3\_conv (Conv2D) (None, None, None, 131072 ['pool3\_relu[0][0]']

256)

pool3\_pool (AveragePooling2D) (None, None, None, 0 ['pool3\_conv[0][0]']

256)

conv4\_block1\_0\_bn (BatchNormal (None, None, None, 1024 ['pool3\_pool[0][0]']

ization) 256)

conv4\_block1\_0\_relu (Activatio (None, None, None, 0 ['conv4\_block1\_0\_bn[0][0]']

n) 256)

conv4\_block1\_1\_conv (Conv2D) (None, None, None, 32768 ['conv4\_block1\_0\_relu[0][0]']

128)

conv4\_block1\_1\_bn (BatchNormal (None, None, None, 512 ['conv4\_block1\_1\_conv[0][0]']

ization) 128)

conv4\_block1\_1\_relu (Activatio (None, None, None, 0 ['conv4\_block1\_1\_bn[0][0]']

n) 128)

conv4\_block1\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block1\_1\_relu[0][0]']

32)

conv4\_block1\_concat (Concatena (None, None, None, 0 ['pool3\_pool[0][0]',

te) 288) 'conv4\_block1\_2\_conv[0][0]']

conv4\_block2\_0\_bn (BatchNormal (None, None, None, 1152 ['conv4\_block1\_concat[0][0]']

ization) 288)

conv4\_block2\_0\_relu (Activatio (None, None, None, 0 ['conv4\_block2\_0\_bn[0][0]']

n) 288)

conv4\_block2\_1\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block2\_0\_relu[0][0]']

128)

conv4\_block2\_1\_bn (BatchNormal (None, None, None, 512 ['conv4\_block2\_1\_conv[0][0]']

ization) 128)

conv4\_block2\_1\_relu (Activatio (None, None, None, 0 ['conv4\_block2\_1\_bn[0][0]']

n) 128)

conv4\_block2\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block2\_1\_relu[0][0]']

32)

conv4\_block2\_concat (Concatena (None, None, None, 0 ['conv4\_block1\_concat[0][0]',

te) 320) 'conv4\_block2\_2\_conv[0][0]']

conv4\_block3\_0\_bn (BatchNormal (None, None, None, 1280 ['conv4\_block2\_concat[0][0]']

ization) 320)

conv4\_block3\_0\_relu (Activatio (None, None, None, 0 ['conv4\_block3\_0\_bn[0][0]']

n) 320)

conv4\_block3\_1\_conv (Conv2D) (None, None, None, 40960 ['conv4\_block3\_0\_relu[0][0]']

128)

conv4\_block3\_1\_bn (BatchNormal (None, None, None, 512 ['conv4\_block3\_1\_conv[0][0]']

ization) 128)

conv4\_block3\_1\_relu (Activatio (None, None, None, 0 ['conv4\_block3\_1\_bn[0][0]']

n) 128)

conv4\_block3\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block3\_1\_relu[0][0]']

32)

conv4\_block3\_concat (Concatena (None, None, None, 0 ['conv4\_block2\_concat[0][0]',

te) 352) 'conv4\_block3\_2\_conv[0][0]']

conv4\_block4\_0\_bn (BatchNormal (None, None, None, 1408 ['conv4\_block3\_concat[0][0]']

ization) 352)

conv4\_block4\_0\_relu (Activatio (None, None, None, 0 ['conv4\_block4\_0\_bn[0][0]']

n) 352)

conv4\_block4\_1\_conv (Conv2D) (None, None, None, 45056 ['conv4\_block4\_0\_relu[0][0]']

128)

conv4\_block4\_1\_bn (BatchNormal (None, None, None, 512 ['conv4\_block4\_1\_conv[0][0]']

ization) 128)

conv4\_block4\_1\_relu (Activatio (None, None, None, 0 ['conv4\_block4\_1\_bn[0][0]']

n) 128)

conv4\_block4\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block4\_1\_relu[0][0]']

32)

conv4\_block4\_concat (Concatena (None, None, None, 0 ['conv4\_block3\_concat[0][0]',

te) 384) 'conv4\_block4\_2\_conv[0][0]']

conv4\_block5\_0\_bn (BatchNormal (None, None, None, 1536 ['conv4\_block4\_concat[0][0]']

ization) 384)

conv4\_block5\_0\_relu (Activatio (None, None, None, 0 ['conv4\_block5\_0\_bn[0][0]']

n) 384)

conv4\_block5\_1\_conv (Conv2D) (None, None, None, 49152 ['conv4\_block5\_0\_relu[0][0]']

128)

conv4\_block5\_1\_bn (BatchNormal (None, None, None, 512 ['conv4\_block5\_1\_conv[0][0]']

ization) 128)

conv4\_block5\_1\_relu (Activatio (None, None, None, 0 ['conv4\_block5\_1\_bn[0][0]']

n) 128)

conv4\_block5\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block5\_1\_relu[0][0]']

32)

conv4\_block5\_concat (Concatena (None, None, None, 0 ['conv4\_block4\_concat[0][0]',

te) 416) 'conv4\_block5\_2\_conv[0][0]']

conv4\_block6\_0\_bn (BatchNormal (None, None, None, 1664 ['conv4\_block5\_concat[0][0]']

ization) 416)

conv4\_block6\_0\_relu (Activatio (None, None, None, 0 ['conv4\_block6\_0\_bn[0][0]']

n) 416)

conv4\_block6\_1\_conv (Conv2D) (None, None, None, 53248 ['conv4\_block6\_0\_relu[0][0]']

128)

conv4\_block6\_1\_bn (BatchNormal (None, None, None, 512 ['conv4\_block6\_1\_conv[0][0]']

ization) 128)

conv4\_block6\_1\_relu (Activatio (None, None, None, 0 ['conv4\_block6\_1\_bn[0][0]']

n) 128)

conv4\_block6\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block6\_1\_relu[0][0]']

32)

conv4\_block6\_concat (Concatena (None, None, None, 0 ['conv4\_block5\_concat[0][0]',

te) 448) 'conv4\_block6\_2\_conv[0][0]']

conv4\_block7\_0\_bn (BatchNormal (None, None, None, 1792 ['conv4\_block6\_concat[0][0]']

ization) 448)

conv4\_block7\_0\_relu (Activatio (None, None, None, 0 ['conv4\_block7\_0\_bn[0][0]']

n) 448)

conv4\_block7\_1\_conv (Conv2D) (None, None, None, 57344 ['conv4\_block7\_0\_relu[0][0]']

128)

conv4\_block7\_1\_bn (BatchNormal (None, None, None, 512 ['conv4\_block7\_1\_conv[0][0]']

ization) 128)

conv4\_block7\_1\_relu (Activatio (None, None, None, 0 ['conv4\_block7\_1\_bn[0][0]']

n) 128)

conv4\_block7\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block7\_1\_relu[0][0]']

32)

conv4\_block7\_concat (Concatena (None, None, None, 0 ['conv4\_block6\_concat[0][0]',

te) 480) 'conv4\_block7\_2\_conv[0][0]']

conv4\_block8\_0\_bn (BatchNormal (None, None, None, 1920 ['conv4\_block7\_concat[0][0]']

ization) 480)

conv4\_block8\_0\_relu (Activatio (None, None, None, 0 ['conv4\_block8\_0\_bn[0][0]']

n) 480)

conv4\_block8\_1\_conv (Conv2D) (None, None, None, 61440 ['conv4\_block8\_0\_relu[0][0]']

128)

conv4\_block8\_1\_bn (BatchNormal (None, None, None, 512 ['conv4\_block8\_1\_conv[0][0]']

ization) 128)

conv4\_block8\_1\_relu (Activatio (None, None, None, 0 ['conv4\_block8\_1\_bn[0][0]']

n) 128)

conv4\_block8\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block8\_1\_relu[0][0]']

32)

conv4\_block8\_concat (Concatena (None, None, None, 0 ['conv4\_block7\_concat[0][0]',

te) 512) 'conv4\_block8\_2\_conv[0][0]']

conv4\_block9\_0\_bn (BatchNormal (None, None, None, 2048 ['conv4\_block8\_concat[0][0]']

ization) 512)

conv4\_block9\_0\_relu (Activatio (None, None, None, 0 ['conv4\_block9\_0\_bn[0][0]']

n) 512)

conv4\_block9\_1\_conv (Conv2D) (None, None, None, 65536 ['conv4\_block9\_0\_relu[0][0]']

128)

conv4\_block9\_1\_bn (BatchNormal (None, None, None, 512 ['conv4\_block9\_1\_conv[0][0]']

ization) 128)

conv4\_block9\_1\_relu (Activatio (None, None, None, 0 ['conv4\_block9\_1\_bn[0][0]']

n) 128)

conv4\_block9\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block9\_1\_relu[0][0]']

32)

conv4\_block9\_concat (Concatena (None, None, None, 0 ['conv4\_block8\_concat[0][0]',

te) 544) 'conv4\_block9\_2\_conv[0][0]']

conv4\_block10\_0\_bn (BatchNorma (None, None, None, 2176 ['conv4\_block9\_concat[0][0]']

lization) 544)

conv4\_block10\_0\_relu (Activati (None, None, None, 0 ['conv4\_block10\_0\_bn[0][0]']

on) 544)

conv4\_block10\_1\_conv (Conv2D) (None, None, None, 69632 ['conv4\_block10\_0\_relu[0][0]']

128)

conv4\_block10\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block10\_1\_conv[0][0]']

lization) 128)

conv4\_block10\_1\_relu (Activati (None, None, None, 0 ['conv4\_block10\_1\_bn[0][0]']

on) 128)

conv4\_block10\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block10\_1\_relu[0][0]']

32)

conv4\_block10\_concat (Concaten (None, None, None, 0 ['conv4\_block9\_concat[0][0]',

ate) 576) 'conv4\_block10\_2\_conv[0][0]']

conv4\_block11\_0\_bn (BatchNorma (None, None, None, 2304 ['conv4\_block10\_concat[0][0]']

lization) 576)

conv4\_block11\_0\_relu (Activati (None, None, None, 0 ['conv4\_block11\_0\_bn[0][0]']

on) 576)

conv4\_block11\_1\_conv (Conv2D) (None, None, None, 73728 ['conv4\_block11\_0\_relu[0][0]']

128)

conv4\_block11\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block11\_1\_conv[0][0]']

lization) 128)

conv4\_block11\_1\_relu (Activati (None, None, None, 0 ['conv4\_block11\_1\_bn[0][0]']

on) 128)

conv4\_block11\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block11\_1\_relu[0][0]']

32)

conv4\_block11\_concat (Concaten (None, None, None, 0 ['conv4\_block10\_concat[0][0]',

ate) 608) 'conv4\_block11\_2\_conv[0][0]']

conv4\_block12\_0\_bn (BatchNorma (None, None, None, 2432 ['conv4\_block11\_concat[0][0]']

lization) 608)

conv4\_block12\_0\_relu (Activati (None, None, None, 0 ['conv4\_block12\_0\_bn[0][0]']

on) 608)

conv4\_block12\_1\_conv (Conv2D) (None, None, None, 77824 ['conv4\_block12\_0\_relu[0][0]']

128)

conv4\_block12\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block12\_1\_conv[0][0]']

lization) 128)

conv4\_block12\_1\_relu (Activati (None, None, None, 0 ['conv4\_block12\_1\_bn[0][0]']

on) 128)

conv4\_block12\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block12\_1\_relu[0][0]']

32)

conv4\_block12\_concat (Concaten (None, None, None, 0 ['conv4\_block11\_concat[0][0]',

ate) 640) 'conv4\_block12\_2\_conv[0][0]']

conv4\_block13\_0\_bn (BatchNorma (None, None, None, 2560 ['conv4\_block12\_concat[0][0]']

lization) 640)

conv4\_block13\_0\_relu (Activati (None, None, None, 0 ['conv4\_block13\_0\_bn[0][0]']

on) 640)

conv4\_block13\_1\_conv (Conv2D) (None, None, None, 81920 ['conv4\_block13\_0\_relu[0][0]']

128)

conv4\_block13\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block13\_1\_conv[0][0]']

lization) 128)

conv4\_block13\_1\_relu (Activati (None, None, None, 0 ['conv4\_block13\_1\_bn[0][0]']

on) 128)

conv4\_block13\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block13\_1\_relu[0][0]']

32)

conv4\_block13\_concat (Concaten (None, None, None, 0 ['conv4\_block12\_concat[0][0]',

ate) 672) 'conv4\_block13\_2\_conv[0][0]']

conv4\_block14\_0\_bn (BatchNorma (None, None, None, 2688 ['conv4\_block13\_concat[0][0]']

lization) 672)

conv4\_block14\_0\_relu (Activati (None, None, None, 0 ['conv4\_block14\_0\_bn[0][0]']

on) 672)

conv4\_block14\_1\_conv (Conv2D) (None, None, None, 86016 ['conv4\_block14\_0\_relu[0][0]']

128)

conv4\_block14\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block14\_1\_conv[0][0]']

lization) 128)

conv4\_block14\_1\_relu (Activati (None, None, None, 0 ['conv4\_block14\_1\_bn[0][0]']

on) 128)

conv4\_block14\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block14\_1\_relu[0][0]']

32)

conv4\_block14\_concat (Concaten (None, None, None, 0 ['conv4\_block13\_concat[0][0]',

ate) 704) 'conv4\_block14\_2\_conv[0][0]']

conv4\_block15\_0\_bn (BatchNorma (None, None, None, 2816 ['conv4\_block14\_concat[0][0]']

lization) 704)

conv4\_block15\_0\_relu (Activati (None, None, None, 0 ['conv4\_block15\_0\_bn[0][0]']

on) 704)

conv4\_block15\_1\_conv (Conv2D) (None, None, None, 90112 ['conv4\_block15\_0\_relu[0][0]']

128)

conv4\_block15\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block15\_1\_conv[0][0]']

lization) 128)

conv4\_block15\_1\_relu (Activati (None, None, None, 0 ['conv4\_block15\_1\_bn[0][0]']

on) 128)

conv4\_block15\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block15\_1\_relu[0][0]']

32)

conv4\_block15\_concat (Concaten (None, None, None, 0 ['conv4\_block14\_concat[0][0]',

ate) 736) 'conv4\_block15\_2\_conv[0][0]']

conv4\_block16\_0\_bn (BatchNorma (None, None, None, 2944 ['conv4\_block15\_concat[0][0]']

lization) 736)

conv4\_block16\_0\_relu (Activati (None, None, None, 0 ['conv4\_block16\_0\_bn[0][0]']

on) 736)

conv4\_block16\_1\_conv (Conv2D) (None, None, None, 94208 ['conv4\_block16\_0\_relu[0][0]']

128)

conv4\_block16\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block16\_1\_conv[0][0]']

lization) 128)

conv4\_block16\_1\_relu (Activati (None, None, None, 0 ['conv4\_block16\_1\_bn[0][0]']

on) 128)

conv4\_block16\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block16\_1\_relu[0][0]']

32)

conv4\_block16\_concat (Concaten (None, None, None, 0 ['conv4\_block15\_concat[0][0]',

ate) 768) 'conv4\_block16\_2\_conv[0][0]']

conv4\_block17\_0\_bn (BatchNorma (None, None, None, 3072 ['conv4\_block16\_concat[0][0]']

lization) 768)

conv4\_block17\_0\_relu (Activati (None, None, None, 0 ['conv4\_block17\_0\_bn[0][0]']

on) 768)

conv4\_block17\_1\_conv (Conv2D) (None, None, None, 98304 ['conv4\_block17\_0\_relu[0][0]']

128)

conv4\_block17\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block17\_1\_conv[0][0]']

lization) 128)

conv4\_block17\_1\_relu (Activati (None, None, None, 0 ['conv4\_block17\_1\_bn[0][0]']

on) 128)

conv4\_block17\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block17\_1\_relu[0][0]']

32)

conv4\_block17\_concat (Concaten (None, None, None, 0 ['conv4\_block16\_concat[0][0]',

ate) 800) 'conv4\_block17\_2\_conv[0][0]']

conv4\_block18\_0\_bn (BatchNorma (None, None, None, 3200 ['conv4\_block17\_concat[0][0]']

lization) 800)

conv4\_block18\_0\_relu (Activati (None, None, None, 0 ['conv4\_block18\_0\_bn[0][0]']

on) 800)

conv4\_block18\_1\_conv (Conv2D) (None, None, None, 102400 ['conv4\_block18\_0\_relu[0][0]']

128)

conv4\_block18\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block18\_1\_conv[0][0]']

lization) 128)

conv4\_block18\_1\_relu (Activati (None, None, None, 0 ['conv4\_block18\_1\_bn[0][0]']

on) 128)

conv4\_block18\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block18\_1\_relu[0][0]']

32)

conv4\_block18\_concat (Concaten (None, None, None, 0 ['conv4\_block17\_concat[0][0]',

ate) 832) 'conv4\_block18\_2\_conv[0][0]']

conv4\_block19\_0\_bn (BatchNorma (None, None, None, 3328 ['conv4\_block18\_concat[0][0]']

lization) 832)

conv4\_block19\_0\_relu (Activati (None, None, None, 0 ['conv4\_block19\_0\_bn[0][0]']

on) 832)

conv4\_block19\_1\_conv (Conv2D) (None, None, None, 106496 ['conv4\_block19\_0\_relu[0][0]']

128)

conv4\_block19\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block19\_1\_conv[0][0]']

lization) 128)

conv4\_block19\_1\_relu (Activati (None, None, None, 0 ['conv4\_block19\_1\_bn[0][0]']

on) 128)

conv4\_block19\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block19\_1\_relu[0][0]']

32)

conv4\_block19\_concat (Concaten (None, None, None, 0 ['conv4\_block18\_concat[0][0]',

ate) 864) 'conv4\_block19\_2\_conv[0][0]']

conv4\_block20\_0\_bn (BatchNorma (None, None, None, 3456 ['conv4\_block19\_concat[0][0]']

lization) 864)

conv4\_block20\_0\_relu (Activati (None, None, None, 0 ['conv4\_block20\_0\_bn[0][0]']

on) 864)

conv4\_block20\_1\_conv (Conv2D) (None, None, None, 110592 ['conv4\_block20\_0\_relu[0][0]']

128)

conv4\_block20\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block20\_1\_conv[0][0]']

lization) 128)

conv4\_block20\_1\_relu (Activati (None, None, None, 0 ['conv4\_block20\_1\_bn[0][0]']

on) 128)

conv4\_block20\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block20\_1\_relu[0][0]']

32)

conv4\_block20\_concat (Concaten (None, None, None, 0 ['conv4\_block19\_concat[0][0]',

ate) 896) 'conv4\_block20\_2\_conv[0][0]']

conv4\_block21\_0\_bn (BatchNorma (None, None, None, 3584 ['conv4\_block20\_concat[0][0]']

lization) 896)

conv4\_block21\_0\_relu (Activati (None, None, None, 0 ['conv4\_block21\_0\_bn[0][0]']

on) 896)

conv4\_block21\_1\_conv (Conv2D) (None, None, None, 114688 ['conv4\_block21\_0\_relu[0][0]']

128)

conv4\_block21\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block21\_1\_conv[0][0]']

lization) 128)

conv4\_block21\_1\_relu (Activati (None, None, None, 0 ['conv4\_block21\_1\_bn[0][0]']

on) 128)

conv4\_block21\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block21\_1\_relu[0][0]']

32)

conv4\_block21\_concat (Concaten (None, None, None, 0 ['conv4\_block20\_concat[0][0]',

ate) 928) 'conv4\_block21\_2\_conv[0][0]']

conv4\_block22\_0\_bn (BatchNorma (None, None, None, 3712 ['conv4\_block21\_concat[0][0]']

lization) 928)

conv4\_block22\_0\_relu (Activati (None, None, None, 0 ['conv4\_block22\_0\_bn[0][0]']

on) 928)

conv4\_block22\_1\_conv (Conv2D) (None, None, None, 118784 ['conv4\_block22\_0\_relu[0][0]']

128)

conv4\_block22\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block22\_1\_conv[0][0]']

lization) 128)

conv4\_block22\_1\_relu (Activati (None, None, None, 0 ['conv4\_block22\_1\_bn[0][0]']

on) 128)

conv4\_block22\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block22\_1\_relu[0][0]']

32)

conv4\_block22\_concat (Concaten (None, None, None, 0 ['conv4\_block21\_concat[0][0]',

ate) 960) 'conv4\_block22\_2\_conv[0][0]']

conv4\_block23\_0\_bn (BatchNorma (None, None, None, 3840 ['conv4\_block22\_concat[0][0]']

lization) 960)

conv4\_block23\_0\_relu (Activati (None, None, None, 0 ['conv4\_block23\_0\_bn[0][0]']

on) 960)

conv4\_block23\_1\_conv (Conv2D) (None, None, None, 122880 ['conv4\_block23\_0\_relu[0][0]']

128)

conv4\_block23\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block23\_1\_conv[0][0]']

lization) 128)

conv4\_block23\_1\_relu (Activati (None, None, None, 0 ['conv4\_block23\_1\_bn[0][0]']

on) 128)

conv4\_block23\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block23\_1\_relu[0][0]']

32)

conv4\_block23\_concat (Concaten (None, None, None, 0 ['conv4\_block22\_concat[0][0]',

ate) 992) 'conv4\_block23\_2\_conv[0][0]']

conv4\_block24\_0\_bn (BatchNorma (None, None, None, 3968 ['conv4\_block23\_concat[0][0]']

lization) 992)

conv4\_block24\_0\_relu (Activati (None, None, None, 0 ['conv4\_block24\_0\_bn[0][0]']

on) 992)

conv4\_block24\_1\_conv (Conv2D) (None, None, None, 126976 ['conv4\_block24\_0\_relu[0][0]']

128)

conv4\_block24\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block24\_1\_conv[0][0]']

lization) 128)

conv4\_block24\_1\_relu (Activati (None, None, None, 0 ['conv4\_block24\_1\_bn[0][0]']

on) 128)

conv4\_block24\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block24\_1\_relu[0][0]']

32)

conv4\_block24\_concat (Concaten (None, None, None, 0 ['conv4\_block23\_concat[0][0]',

ate) 1024) 'conv4\_block24\_2\_conv[0][0]']

conv4\_block25\_0\_bn (BatchNorma (None, None, None, 4096 ['conv4\_block24\_concat[0][0]']

lization) 1024)

conv4\_block25\_0\_relu (Activati (None, None, None, 0 ['conv4\_block25\_0\_bn[0][0]']

on) 1024)

conv4\_block25\_1\_conv (Conv2D) (None, None, None, 131072 ['conv4\_block25\_0\_relu[0][0]']

128)

conv4\_block25\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block25\_1\_conv[0][0]']

lization) 128)

conv4\_block25\_1\_relu (Activati (None, None, None, 0 ['conv4\_block25\_1\_bn[0][0]']

on) 128)

conv4\_block25\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block25\_1\_relu[0][0]']

32)

conv4\_block25\_concat (Concaten (None, None, None, 0 ['conv4\_block24\_concat[0][0]',

ate) 1056) 'conv4\_block25\_2\_conv[0][0]']

conv4\_block26\_0\_bn (BatchNorma (None, None, None, 4224 ['conv4\_block25\_concat[0][0]']

lization) 1056)

conv4\_block26\_0\_relu (Activati (None, None, None, 0 ['conv4\_block26\_0\_bn[0][0]']

on) 1056)

conv4\_block26\_1\_conv (Conv2D) (None, None, None, 135168 ['conv4\_block26\_0\_relu[0][0]']

128)

conv4\_block26\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block26\_1\_conv[0][0]']

lization) 128)

conv4\_block26\_1\_relu (Activati (None, None, None, 0 ['conv4\_block26\_1\_bn[0][0]']

on) 128)

conv4\_block26\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block26\_1\_relu[0][0]']

32)

conv4\_block26\_concat (Concaten (None, None, None, 0 ['conv4\_block25\_concat[0][0]',

ate) 1088) 'conv4\_block26\_2\_conv[0][0]']

conv4\_block27\_0\_bn (BatchNorma (None, None, None, 4352 ['conv4\_block26\_concat[0][0]']

lization) 1088)

conv4\_block27\_0\_relu (Activati (None, None, None, 0 ['conv4\_block27\_0\_bn[0][0]']

on) 1088)

conv4\_block27\_1\_conv (Conv2D) (None, None, None, 139264 ['conv4\_block27\_0\_relu[0][0]']

128)

conv4\_block27\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block27\_1\_conv[0][0]']

lization) 128)

conv4\_block27\_1\_relu (Activati (None, None, None, 0 ['conv4\_block27\_1\_bn[0][0]']

on) 128)

conv4\_block27\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block27\_1\_relu[0][0]']

32)

conv4\_block27\_concat (Concaten (None, None, None, 0 ['conv4\_block26\_concat[0][0]',

ate) 1120) 'conv4\_block27\_2\_conv[0][0]']

conv4\_block28\_0\_bn (BatchNorma (None, None, None, 4480 ['conv4\_block27\_concat[0][0]']

lization) 1120)

conv4\_block28\_0\_relu (Activati (None, None, None, 0 ['conv4\_block28\_0\_bn[0][0]']

on) 1120)

conv4\_block28\_1\_conv (Conv2D) (None, None, None, 143360 ['conv4\_block28\_0\_relu[0][0]']

128)

conv4\_block28\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block28\_1\_conv[0][0]']

lization) 128)

conv4\_block28\_1\_relu (Activati (None, None, None, 0 ['conv4\_block28\_1\_bn[0][0]']

on) 128)

conv4\_block28\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block28\_1\_relu[0][0]']

32)

conv4\_block28\_concat (Concaten (None, None, None, 0 ['conv4\_block27\_concat[0][0]',

ate) 1152) 'conv4\_block28\_2\_conv[0][0]']

conv4\_block29\_0\_bn (BatchNorma (None, None, None, 4608 ['conv4\_block28\_concat[0][0]']

lization) 1152)

conv4\_block29\_0\_relu (Activati (None, None, None, 0 ['conv4\_block29\_0\_bn[0][0]']

on) 1152)

conv4\_block29\_1\_conv (Conv2D) (None, None, None, 147456 ['conv4\_block29\_0\_relu[0][0]']

128)

conv4\_block29\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block29\_1\_conv[0][0]']

lization) 128)

conv4\_block29\_1\_relu (Activati (None, None, None, 0 ['conv4\_block29\_1\_bn[0][0]']

on) 128)

conv4\_block29\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block29\_1\_relu[0][0]']

32)

conv4\_block29\_concat (Concaten (None, None, None, 0 ['conv4\_block28\_concat[0][0]',

ate) 1184) 'conv4\_block29\_2\_conv[0][0]']

conv4\_block30\_0\_bn (BatchNorma (None, None, None, 4736 ['conv4\_block29\_concat[0][0]']

lization) 1184)

conv4\_block30\_0\_relu (Activati (None, None, None, 0 ['conv4\_block30\_0\_bn[0][0]']

on) 1184)

conv4\_block30\_1\_conv (Conv2D) (None, None, None, 151552 ['conv4\_block30\_0\_relu[0][0]']

128)

conv4\_block30\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block30\_1\_conv[0][0]']

lization) 128)

conv4\_block30\_1\_relu (Activati (None, None, None, 0 ['conv4\_block30\_1\_bn[0][0]']

on) 128)

conv4\_block30\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block30\_1\_relu[0][0]']

32)

conv4\_block30\_concat (Concaten (None, None, None, 0 ['conv4\_block29\_concat[0][0]',

ate) 1216) 'conv4\_block30\_2\_conv[0][0]']

conv4\_block31\_0\_bn (BatchNorma (None, None, None, 4864 ['conv4\_block30\_concat[0][0]']

lization) 1216)

conv4\_block31\_0\_relu (Activati (None, None, None, 0 ['conv4\_block31\_0\_bn[0][0]']

on) 1216)

conv4\_block31\_1\_conv (Conv2D) (None, None, None, 155648 ['conv4\_block31\_0\_relu[0][0]']

128)

conv4\_block31\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block31\_1\_conv[0][0]']

lization) 128)

conv4\_block31\_1\_relu (Activati (None, None, None, 0 ['conv4\_block31\_1\_bn[0][0]']

on) 128)

conv4\_block31\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block31\_1\_relu[0][0]']

32)

conv4\_block31\_concat (Concaten (None, None, None, 0 ['conv4\_block30\_concat[0][0]',

ate) 1248) 'conv4\_block31\_2\_conv[0][0]']

conv4\_block32\_0\_bn (BatchNorma (None, None, None, 4992 ['conv4\_block31\_concat[0][0]']

lization) 1248)

conv4\_block32\_0\_relu (Activati (None, None, None, 0 ['conv4\_block32\_0\_bn[0][0]']

on) 1248)

conv4\_block32\_1\_conv (Conv2D) (None, None, None, 159744 ['conv4\_block32\_0\_relu[0][0]']

128)

conv4\_block32\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block32\_1\_conv[0][0]']

lization) 128)

conv4\_block32\_1\_relu (Activati (None, None, None, 0 ['conv4\_block32\_1\_bn[0][0]']

on) 128)

conv4\_block32\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block32\_1\_relu[0][0]']

32)

conv4\_block32\_concat (Concaten (None, None, None, 0 ['conv4\_block31\_concat[0][0]',

ate) 1280) 'conv4\_block32\_2\_conv[0][0]']

conv4\_block33\_0\_bn (BatchNorma (None, None, None, 5120 ['conv4\_block32\_concat[0][0]']

lization) 1280)

conv4\_block33\_0\_relu (Activati (None, None, None, 0 ['conv4\_block33\_0\_bn[0][0]']

on) 1280)

conv4\_block33\_1\_conv (Conv2D) (None, None, None, 163840 ['conv4\_block33\_0\_relu[0][0]']

128)

conv4\_block33\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block33\_1\_conv[0][0]']

lization) 128)

conv4\_block33\_1\_relu (Activati (None, None, None, 0 ['conv4\_block33\_1\_bn[0][0]']

on) 128)

conv4\_block33\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block33\_1\_relu[0][0]']

32)

conv4\_block33\_concat (Concaten (None, None, None, 0 ['conv4\_block32\_concat[0][0]',

ate) 1312) 'conv4\_block33\_2\_conv[0][0]']

conv4\_block34\_0\_bn (BatchNorma (None, None, None, 5248 ['conv4\_block33\_concat[0][0]']

lization) 1312)

conv4\_block34\_0\_relu (Activati (None, None, None, 0 ['conv4\_block34\_0\_bn[0][0]']

on) 1312)

conv4\_block34\_1\_conv (Conv2D) (None, None, None, 167936 ['conv4\_block34\_0\_relu[0][0]']

128)

conv4\_block34\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block34\_1\_conv[0][0]']

lization) 128)

conv4\_block34\_1\_relu (Activati (None, None, None, 0 ['conv4\_block34\_1\_bn[0][0]']

on) 128)

conv4\_block34\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block34\_1\_relu[0][0]']

32)

conv4\_block34\_concat (Concaten (None, None, None, 0 ['conv4\_block33\_concat[0][0]',

ate) 1344) 'conv4\_block34\_2\_conv[0][0]']

conv4\_block35\_0\_bn (BatchNorma (None, None, None, 5376 ['conv4\_block34\_concat[0][0]']

lization) 1344)

conv4\_block35\_0\_relu (Activati (None, None, None, 0 ['conv4\_block35\_0\_bn[0][0]']

on) 1344)

conv4\_block35\_1\_conv (Conv2D) (None, None, None, 172032 ['conv4\_block35\_0\_relu[0][0]']

128)

conv4\_block35\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block35\_1\_conv[0][0]']

lization) 128)

conv4\_block35\_1\_relu (Activati (None, None, None, 0 ['conv4\_block35\_1\_bn[0][0]']

on) 128)

conv4\_block35\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block35\_1\_relu[0][0]']

32)

conv4\_block35\_concat (Concaten (None, None, None, 0 ['conv4\_block34\_concat[0][0]',

ate) 1376) 'conv4\_block35\_2\_conv[0][0]']

conv4\_block36\_0\_bn (BatchNorma (None, None, None, 5504 ['conv4\_block35\_concat[0][0]']

lization) 1376)

conv4\_block36\_0\_relu (Activati (None, None, None, 0 ['conv4\_block36\_0\_bn[0][0]']

on) 1376)

conv4\_block36\_1\_conv (Conv2D) (None, None, None, 176128 ['conv4\_block36\_0\_relu[0][0]']

128)

conv4\_block36\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block36\_1\_conv[0][0]']

lization) 128)

conv4\_block36\_1\_relu (Activati (None, None, None, 0 ['conv4\_block36\_1\_bn[0][0]']

on) 128)

conv4\_block36\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block36\_1\_relu[0][0]']

32)

conv4\_block36\_concat (Concaten (None, None, None, 0 ['conv4\_block35\_concat[0][0]',

ate) 1408) 'conv4\_block36\_2\_conv[0][0]']

conv4\_block37\_0\_bn (BatchNorma (None, None, None, 5632 ['conv4\_block36\_concat[0][0]']

lization) 1408)

conv4\_block37\_0\_relu (Activati (None, None, None, 0 ['conv4\_block37\_0\_bn[0][0]']

on) 1408)

conv4\_block37\_1\_conv (Conv2D) (None, None, None, 180224 ['conv4\_block37\_0\_relu[0][0]']

128)

conv4\_block37\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block37\_1\_conv[0][0]']

lization) 128)

conv4\_block37\_1\_relu (Activati (None, None, None, 0 ['conv4\_block37\_1\_bn[0][0]']

on) 128)

conv4\_block37\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block37\_1\_relu[0][0]']

32)

conv4\_block37\_concat (Concaten (None, None, None, 0 ['conv4\_block36\_concat[0][0]',

ate) 1440) 'conv4\_block37\_2\_conv[0][0]']

conv4\_block38\_0\_bn (BatchNorma (None, None, None, 5760 ['conv4\_block37\_concat[0][0]']

lization) 1440)

conv4\_block38\_0\_relu (Activati (None, None, None, 0 ['conv4\_block38\_0\_bn[0][0]']

on) 1440)

conv4\_block38\_1\_conv (Conv2D) (None, None, None, 184320 ['conv4\_block38\_0\_relu[0][0]']

128)

conv4\_block38\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block38\_1\_conv[0][0]']

lization) 128)

conv4\_block38\_1\_relu (Activati (None, None, None, 0 ['conv4\_block38\_1\_bn[0][0]']

on) 128)

conv4\_block38\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block38\_1\_relu[0][0]']

32)

conv4\_block38\_concat (Concaten (None, None, None, 0 ['conv4\_block37\_concat[0][0]',

ate) 1472) 'conv4\_block38\_2\_conv[0][0]']

conv4\_block39\_0\_bn (BatchNorma (None, None, None, 5888 ['conv4\_block38\_concat[0][0]']

lization) 1472)

conv4\_block39\_0\_relu (Activati (None, None, None, 0 ['conv4\_block39\_0\_bn[0][0]']

on) 1472)

conv4\_block39\_1\_conv (Conv2D) (None, None, None, 188416 ['conv4\_block39\_0\_relu[0][0]']

128)

conv4\_block39\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block39\_1\_conv[0][0]']

lization) 128)

conv4\_block39\_1\_relu (Activati (None, None, None, 0 ['conv4\_block39\_1\_bn[0][0]']

on) 128)

conv4\_block39\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block39\_1\_relu[0][0]']

32)

conv4\_block39\_concat (Concaten (None, None, None, 0 ['conv4\_block38\_concat[0][0]',

ate) 1504) 'conv4\_block39\_2\_conv[0][0]']

conv4\_block40\_0\_bn (BatchNorma (None, None, None, 6016 ['conv4\_block39\_concat[0][0]']

lization) 1504)

conv4\_block40\_0\_relu (Activati (None, None, None, 0 ['conv4\_block40\_0\_bn[0][0]']

on) 1504)

conv4\_block40\_1\_conv (Conv2D) (None, None, None, 192512 ['conv4\_block40\_0\_relu[0][0]']

128)

conv4\_block40\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block40\_1\_conv[0][0]']

lization) 128)

conv4\_block40\_1\_relu (Activati (None, None, None, 0 ['conv4\_block40\_1\_bn[0][0]']

on) 128)

conv4\_block40\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block40\_1\_relu[0][0]']

32)

conv4\_block40\_concat (Concaten (None, None, None, 0 ['conv4\_block39\_concat[0][0]',

ate) 1536) 'conv4\_block40\_2\_conv[0][0]']

conv4\_block41\_0\_bn (BatchNorma (None, None, None, 6144 ['conv4\_block40\_concat[0][0]']

lization) 1536)

conv4\_block41\_0\_relu (Activati (None, None, None, 0 ['conv4\_block41\_0\_bn[0][0]']

on) 1536)

conv4\_block41\_1\_conv (Conv2D) (None, None, None, 196608 ['conv4\_block41\_0\_relu[0][0]']

128)

conv4\_block41\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block41\_1\_conv[0][0]']

lization) 128)

conv4\_block41\_1\_relu (Activati (None, None, None, 0 ['conv4\_block41\_1\_bn[0][0]']

on) 128)

conv4\_block41\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block41\_1\_relu[0][0]']

32)

conv4\_block41\_concat (Concaten (None, None, None, 0 ['conv4\_block40\_concat[0][0]',

ate) 1568) 'conv4\_block41\_2\_conv[0][0]']

conv4\_block42\_0\_bn (BatchNorma (None, None, None, 6272 ['conv4\_block41\_concat[0][0]']

lization) 1568)

conv4\_block42\_0\_relu (Activati (None, None, None, 0 ['conv4\_block42\_0\_bn[0][0]']

on) 1568)

conv4\_block42\_1\_conv (Conv2D) (None, None, None, 200704 ['conv4\_block42\_0\_relu[0][0]']

128)

conv4\_block42\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block42\_1\_conv[0][0]']

lization) 128)

conv4\_block42\_1\_relu (Activati (None, None, None, 0 ['conv4\_block42\_1\_bn[0][0]']

on) 128)

conv4\_block42\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block42\_1\_relu[0][0]']

32)

conv4\_block42\_concat (Concaten (None, None, None, 0 ['conv4\_block41\_concat[0][0]',

ate) 1600) 'conv4\_block42\_2\_conv[0][0]']

conv4\_block43\_0\_bn (BatchNorma (None, None, None, 6400 ['conv4\_block42\_concat[0][0]']

lization) 1600)

conv4\_block43\_0\_relu (Activati (None, None, None, 0 ['conv4\_block43\_0\_bn[0][0]']

on) 1600)

conv4\_block43\_1\_conv (Conv2D) (None, None, None, 204800 ['conv4\_block43\_0\_relu[0][0]']

128)

conv4\_block43\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block43\_1\_conv[0][0]']

lization) 128)

conv4\_block43\_1\_relu (Activati (None, None, None, 0 ['conv4\_block43\_1\_bn[0][0]']

on) 128)

conv4\_block43\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block43\_1\_relu[0][0]']

32)

conv4\_block43\_concat (Concaten (None, None, None, 0 ['conv4\_block42\_concat[0][0]',

ate) 1632) 'conv4\_block43\_2\_conv[0][0]']

conv4\_block44\_0\_bn (BatchNorma (None, None, None, 6528 ['conv4\_block43\_concat[0][0]']

lization) 1632)

conv4\_block44\_0\_relu (Activati (None, None, None, 0 ['conv4\_block44\_0\_bn[0][0]']

on) 1632)

conv4\_block44\_1\_conv (Conv2D) (None, None, None, 208896 ['conv4\_block44\_0\_relu[0][0]']

128)

conv4\_block44\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block44\_1\_conv[0][0]']

lization) 128)

conv4\_block44\_1\_relu (Activati (None, None, None, 0 ['conv4\_block44\_1\_bn[0][0]']

on) 128)

conv4\_block44\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block44\_1\_relu[0][0]']

32)

conv4\_block44\_concat (Concaten (None, None, None, 0 ['conv4\_block43\_concat[0][0]',

ate) 1664) 'conv4\_block44\_2\_conv[0][0]']

conv4\_block45\_0\_bn (BatchNorma (None, None, None, 6656 ['conv4\_block44\_concat[0][0]']

lization) 1664)

conv4\_block45\_0\_relu (Activati (None, None, None, 0 ['conv4\_block45\_0\_bn[0][0]']

on) 1664)

conv4\_block45\_1\_conv (Conv2D) (None, None, None, 212992 ['conv4\_block45\_0\_relu[0][0]']

128)

conv4\_block45\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block45\_1\_conv[0][0]']

lization) 128)

conv4\_block45\_1\_relu (Activati (None, None, None, 0 ['conv4\_block45\_1\_bn[0][0]']

on) 128)

conv4\_block45\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block45\_1\_relu[0][0]']

32)

conv4\_block45\_concat (Concaten (None, None, None, 0 ['conv4\_block44\_concat[0][0]',

ate) 1696) 'conv4\_block45\_2\_conv[0][0]']

conv4\_block46\_0\_bn (BatchNorma (None, None, None, 6784 ['conv4\_block45\_concat[0][0]']

lization) 1696)

conv4\_block46\_0\_relu (Activati (None, None, None, 0 ['conv4\_block46\_0\_bn[0][0]']

on) 1696)

conv4\_block46\_1\_conv (Conv2D) (None, None, None, 217088 ['conv4\_block46\_0\_relu[0][0]']

128)

conv4\_block46\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block46\_1\_conv[0][0]']

lization) 128)

conv4\_block46\_1\_relu (Activati (None, None, None, 0 ['conv4\_block46\_1\_bn[0][0]']

on) 128)

conv4\_block46\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block46\_1\_relu[0][0]']

32)

conv4\_block46\_concat (Concaten (None, None, None, 0 ['conv4\_block45\_concat[0][0]',

ate) 1728) 'conv4\_block46\_2\_conv[0][0]']

conv4\_block47\_0\_bn (BatchNorma (None, None, None, 6912 ['conv4\_block46\_concat[0][0]']

lization) 1728)

conv4\_block47\_0\_relu (Activati (None, None, None, 0 ['conv4\_block47\_0\_bn[0][0]']

on) 1728)

conv4\_block47\_1\_conv (Conv2D) (None, None, None, 221184 ['conv4\_block47\_0\_relu[0][0]']

128)

conv4\_block47\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block47\_1\_conv[0][0]']

lization) 128)

conv4\_block47\_1\_relu (Activati (None, None, None, 0 ['conv4\_block47\_1\_bn[0][0]']

on) 128)

conv4\_block47\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block47\_1\_relu[0][0]']

32)

conv4\_block47\_concat (Concaten (None, None, None, 0 ['conv4\_block46\_concat[0][0]',

ate) 1760) 'conv4\_block47\_2\_conv[0][0]']

conv4\_block48\_0\_bn (BatchNorma (None, None, None, 7040 ['conv4\_block47\_concat[0][0]']

lization) 1760)

conv4\_block48\_0\_relu (Activati (None, None, None, 0 ['conv4\_block48\_0\_bn[0][0]']

on) 1760)

conv4\_block48\_1\_conv (Conv2D) (None, None, None, 225280 ['conv4\_block48\_0\_relu[0][0]']

128)

conv4\_block48\_1\_bn (BatchNorma (None, None, None, 512 ['conv4\_block48\_1\_conv[0][0]']

lization) 128)

conv4\_block48\_1\_relu (Activati (None, None, None, 0 ['conv4\_block48\_1\_bn[0][0]']

on) 128)

conv4\_block48\_2\_conv (Conv2D) (None, None, None, 36864 ['conv4\_block48\_1\_relu[0][0]']

32)

conv4\_block48\_concat (Concaten (None, None, None, 0 ['conv4\_block47\_concat[0][0]',

ate) 1792) 'conv4\_block48\_2\_conv[0][0]']

pool4\_bn (BatchNormalization) (None, None, None, 7168 ['conv4\_block48\_concat[0][0]']

1792)

pool4\_relu (Activation) (None, None, None, 0 ['pool4\_bn[0][0]']

1792)

pool4\_conv (Conv2D) (None, None, None, 1605632 ['pool4\_relu[0][0]']

896)

pool4\_pool (AveragePooling2D) (None, None, None, 0 ['pool4\_conv[0][0]']

896)

conv5\_block1\_0\_bn (BatchNormal (None, None, None, 3584 ['pool4\_pool[0][0]']

ization) 896)

conv5\_block1\_0\_relu (Activatio (None, None, None, 0 ['conv5\_block1\_0\_bn[0][0]']

n) 896)

conv5\_block1\_1\_conv (Conv2D) (None, None, None, 114688 ['conv5\_block1\_0\_relu[0][0]']

128)

conv5\_block1\_1\_bn (BatchNormal (None, None, None, 512 ['conv5\_block1\_1\_conv[0][0]']

ization) 128)

conv5\_block1\_1\_relu (Activatio (None, None, None, 0 ['conv5\_block1\_1\_bn[0][0]']

n) 128)

conv5\_block1\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block1\_1\_relu[0][0]']

32)

conv5\_block1\_concat (Concatena (None, None, None, 0 ['pool4\_pool[0][0]',

te) 928) 'conv5\_block1\_2\_conv[0][0]']

conv5\_block2\_0\_bn (BatchNormal (None, None, None, 3712 ['conv5\_block1\_concat[0][0]']

ization) 928)

conv5\_block2\_0\_relu (Activatio (None, None, None, 0 ['conv5\_block2\_0\_bn[0][0]']

n) 928)

conv5\_block2\_1\_conv (Conv2D) (None, None, None, 118784 ['conv5\_block2\_0\_relu[0][0]']

128)

conv5\_block2\_1\_bn (BatchNormal (None, None, None, 512 ['conv5\_block2\_1\_conv[0][0]']

ization) 128)

conv5\_block2\_1\_relu (Activatio (None, None, None, 0 ['conv5\_block2\_1\_bn[0][0]']

n) 128)

conv5\_block2\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block2\_1\_relu[0][0]']

32)

conv5\_block2\_concat (Concatena (None, None, None, 0 ['conv5\_block1\_concat[0][0]',

te) 960) 'conv5\_block2\_2\_conv[0][0]']

conv5\_block3\_0\_bn (BatchNormal (None, None, None, 3840 ['conv5\_block2\_concat[0][0]']

ization) 960)

conv5\_block3\_0\_relu (Activatio (None, None, None, 0 ['conv5\_block3\_0\_bn[0][0]']

n) 960)

conv5\_block3\_1\_conv (Conv2D) (None, None, None, 122880 ['conv5\_block3\_0\_relu[0][0]']

128)

conv5\_block3\_1\_bn (BatchNormal (None, None, None, 512 ['conv5\_block3\_1\_conv[0][0]']

ization) 128)

conv5\_block3\_1\_relu (Activatio (None, None, None, 0 ['conv5\_block3\_1\_bn[0][0]']

n) 128)

conv5\_block3\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block3\_1\_relu[0][0]']

32)

conv5\_block3\_concat (Concatena (None, None, None, 0 ['conv5\_block2\_concat[0][0]',

te) 992) 'conv5\_block3\_2\_conv[0][0]']

conv5\_block4\_0\_bn (BatchNormal (None, None, None, 3968 ['conv5\_block3\_concat[0][0]']

ization) 992)

conv5\_block4\_0\_relu (Activatio (None, None, None, 0 ['conv5\_block4\_0\_bn[0][0]']

n) 992)

conv5\_block4\_1\_conv (Conv2D) (None, None, None, 126976 ['conv5\_block4\_0\_relu[0][0]']

128)

conv5\_block4\_1\_bn (BatchNormal (None, None, None, 512 ['conv5\_block4\_1\_conv[0][0]']

ization) 128)

conv5\_block4\_1\_relu (Activatio (None, None, None, 0 ['conv5\_block4\_1\_bn[0][0]']

n) 128)

conv5\_block4\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block4\_1\_relu[0][0]']

32)

conv5\_block4\_concat (Concatena (None, None, None, 0 ['conv5\_block3\_concat[0][0]',

te) 1024) 'conv5\_block4\_2\_conv[0][0]']

conv5\_block5\_0\_bn (BatchNormal (None, None, None, 4096 ['conv5\_block4\_concat[0][0]']

ization) 1024)

conv5\_block5\_0\_relu (Activatio (None, None, None, 0 ['conv5\_block5\_0\_bn[0][0]']

n) 1024)

conv5\_block5\_1\_conv (Conv2D) (None, None, None, 131072 ['conv5\_block5\_0\_relu[0][0]']

128)

conv5\_block5\_1\_bn (BatchNormal (None, None, None, 512 ['conv5\_block5\_1\_conv[0][0]']

ization) 128)

conv5\_block5\_1\_relu (Activatio (None, None, None, 0 ['conv5\_block5\_1\_bn[0][0]']

n) 128)

conv5\_block5\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block5\_1\_relu[0][0]']

32)

conv5\_block5\_concat (Concatena (None, None, None, 0 ['conv5\_block4\_concat[0][0]',

te) 1056) 'conv5\_block5\_2\_conv[0][0]']

conv5\_block6\_0\_bn (BatchNormal (None, None, None, 4224 ['conv5\_block5\_concat[0][0]']

ization) 1056)

conv5\_block6\_0\_relu (Activatio (None, None, None, 0 ['conv5\_block6\_0\_bn[0][0]']

n) 1056)

conv5\_block6\_1\_conv (Conv2D) (None, None, None, 135168 ['conv5\_block6\_0\_relu[0][0]']

128)

conv5\_block6\_1\_bn (BatchNormal (None, None, None, 512 ['conv5\_block6\_1\_conv[0][0]']

ization) 128)

conv5\_block6\_1\_relu (Activatio (None, None, None, 0 ['conv5\_block6\_1\_bn[0][0]']

n) 128)

conv5\_block6\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block6\_1\_relu[0][0]']

32)

conv5\_block6\_concat (Concatena (None, None, None, 0 ['conv5\_block5\_concat[0][0]',

te) 1088) 'conv5\_block6\_2\_conv[0][0]']

conv5\_block7\_0\_bn (BatchNormal (None, None, None, 4352 ['conv5\_block6\_concat[0][0]']

ization) 1088)

conv5\_block7\_0\_relu (Activatio (None, None, None, 0 ['conv5\_block7\_0\_bn[0][0]']

n) 1088)

conv5\_block7\_1\_conv (Conv2D) (None, None, None, 139264 ['conv5\_block7\_0\_relu[0][0]']

128)

conv5\_block7\_1\_bn (BatchNormal (None, None, None, 512 ['conv5\_block7\_1\_conv[0][0]']

ization) 128)

conv5\_block7\_1\_relu (Activatio (None, None, None, 0 ['conv5\_block7\_1\_bn[0][0]']

n) 128)

conv5\_block7\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block7\_1\_relu[0][0]']

32)

conv5\_block7\_concat (Concatena (None, None, None, 0 ['conv5\_block6\_concat[0][0]',

te) 1120) 'conv5\_block7\_2\_conv[0][0]']

conv5\_block8\_0\_bn (BatchNormal (None, None, None, 4480 ['conv5\_block7\_concat[0][0]']

ization) 1120)

conv5\_block8\_0\_relu (Activatio (None, None, None, 0 ['conv5\_block8\_0\_bn[0][0]']

n) 1120)

conv5\_block8\_1\_conv (Conv2D) (None, None, None, 143360 ['conv5\_block8\_0\_relu[0][0]']

128)

conv5\_block8\_1\_bn (BatchNormal (None, None, None, 512 ['conv5\_block8\_1\_conv[0][0]']

ization) 128)

conv5\_block8\_1\_relu (Activatio (None, None, None, 0 ['conv5\_block8\_1\_bn[0][0]']

n) 128)

conv5\_block8\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block8\_1\_relu[0][0]']

32)

conv5\_block8\_concat (Concatena (None, None, None, 0 ['conv5\_block7\_concat[0][0]',

te) 1152) 'conv5\_block8\_2\_conv[0][0]']

conv5\_block9\_0\_bn (BatchNormal (None, None, None, 4608 ['conv5\_block8\_concat[0][0]']

ization) 1152)

conv5\_block9\_0\_relu (Activatio (None, None, None, 0 ['conv5\_block9\_0\_bn[0][0]']

n) 1152)

conv5\_block9\_1\_conv (Conv2D) (None, None, None, 147456 ['conv5\_block9\_0\_relu[0][0]']

128)

conv5\_block9\_1\_bn (BatchNormal (None, None, None, 512 ['conv5\_block9\_1\_conv[0][0]']

ization) 128)

conv5\_block9\_1\_relu (Activatio (None, None, None, 0 ['conv5\_block9\_1\_bn[0][0]']

n) 128)

conv5\_block9\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block9\_1\_relu[0][0]']

32)

conv5\_block9\_concat (Concatena (None, None, None, 0 ['conv5\_block8\_concat[0][0]',

te) 1184) 'conv5\_block9\_2\_conv[0][0]']

conv5\_block10\_0\_bn (BatchNorma (None, None, None, 4736 ['conv5\_block9\_concat[0][0]']

lization) 1184)

conv5\_block10\_0\_relu (Activati (None, None, None, 0 ['conv5\_block10\_0\_bn[0][0]']

on) 1184)

conv5\_block10\_1\_conv (Conv2D) (None, None, None, 151552 ['conv5\_block10\_0\_relu[0][0]']

128)

conv5\_block10\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block10\_1\_conv[0][0]']

lization) 128)

conv5\_block10\_1\_relu (Activati (None, None, None, 0 ['conv5\_block10\_1\_bn[0][0]']

on) 128)

conv5\_block10\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block10\_1\_relu[0][0]']

32)

conv5\_block10\_concat (Concaten (None, None, None, 0 ['conv5\_block9\_concat[0][0]',

ate) 1216) 'conv5\_block10\_2\_conv[0][0]']

conv5\_block11\_0\_bn (BatchNorma (None, None, None, 4864 ['conv5\_block10\_concat[0][0]']

lization) 1216)

conv5\_block11\_0\_relu (Activati (None, None, None, 0 ['conv5\_block11\_0\_bn[0][0]']

on) 1216)

conv5\_block11\_1\_conv (Conv2D) (None, None, None, 155648 ['conv5\_block11\_0\_relu[0][0]']

128)

conv5\_block11\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block11\_1\_conv[0][0]']

lization) 128)

conv5\_block11\_1\_relu (Activati (None, None, None, 0 ['conv5\_block11\_1\_bn[0][0]']

on) 128)

conv5\_block11\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block11\_1\_relu[0][0]']

32)

conv5\_block11\_concat (Concaten (None, None, None, 0 ['conv5\_block10\_concat[0][0]',

ate) 1248) 'conv5\_block11\_2\_conv[0][0]']

conv5\_block12\_0\_bn (BatchNorma (None, None, None, 4992 ['conv5\_block11\_concat[0][0]']

lization) 1248)

conv5\_block12\_0\_relu (Activati (None, None, None, 0 ['conv5\_block12\_0\_bn[0][0]']

on) 1248)

conv5\_block12\_1\_conv (Conv2D) (None, None, None, 159744 ['conv5\_block12\_0\_relu[0][0]']

128)

conv5\_block12\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block12\_1\_conv[0][0]']

lization) 128)

conv5\_block12\_1\_relu (Activati (None, None, None, 0 ['conv5\_block12\_1\_bn[0][0]']

on) 128)

conv5\_block12\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block12\_1\_relu[0][0]']

32)

conv5\_block12\_concat (Concaten (None, None, None, 0 ['conv5\_block11\_concat[0][0]',

ate) 1280) 'conv5\_block12\_2\_conv[0][0]']

conv5\_block13\_0\_bn (BatchNorma (None, None, None, 5120 ['conv5\_block12\_concat[0][0]']

lization) 1280)

conv5\_block13\_0\_relu (Activati (None, None, None, 0 ['conv5\_block13\_0\_bn[0][0]']

on) 1280)

conv5\_block13\_1\_conv (Conv2D) (None, None, None, 163840 ['conv5\_block13\_0\_relu[0][0]']

128)

conv5\_block13\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block13\_1\_conv[0][0]']

lization) 128)

conv5\_block13\_1\_relu (Activati (None, None, None, 0 ['conv5\_block13\_1\_bn[0][0]']

on) 128)

conv5\_block13\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block13\_1\_relu[0][0]']

32)

conv5\_block13\_concat (Concaten (None, None, None, 0 ['conv5\_block12\_concat[0][0]',

ate) 1312) 'conv5\_block13\_2\_conv[0][0]']

conv5\_block14\_0\_bn (BatchNorma (None, None, None, 5248 ['conv5\_block13\_concat[0][0]']

lization) 1312)

conv5\_block14\_0\_relu (Activati (None, None, None, 0 ['conv5\_block14\_0\_bn[0][0]']

on) 1312)

conv5\_block14\_1\_conv (Conv2D) (None, None, None, 167936 ['conv5\_block14\_0\_relu[0][0]']

128)

conv5\_block14\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block14\_1\_conv[0][0]']

lization) 128)

conv5\_block14\_1\_relu (Activati (None, None, None, 0 ['conv5\_block14\_1\_bn[0][0]']

on) 128)

conv5\_block14\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block14\_1\_relu[0][0]']

32)

conv5\_block14\_concat (Concaten (None, None, None, 0 ['conv5\_block13\_concat[0][0]',

ate) 1344) 'conv5\_block14\_2\_conv[0][0]']

conv5\_block15\_0\_bn (BatchNorma (None, None, None, 5376 ['conv5\_block14\_concat[0][0]']

lization) 1344)

conv5\_block15\_0\_relu (Activati (None, None, None, 0 ['conv5\_block15\_0\_bn[0][0]']

on) 1344)

conv5\_block15\_1\_conv (Conv2D) (None, None, None, 172032 ['conv5\_block15\_0\_relu[0][0]']

128)

conv5\_block15\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block15\_1\_conv[0][0]']

lization) 128)

conv5\_block15\_1\_relu (Activati (None, None, None, 0 ['conv5\_block15\_1\_bn[0][0]']

on) 128)

conv5\_block15\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block15\_1\_relu[0][0]']

32)

conv5\_block15\_concat (Concaten (None, None, None, 0 ['conv5\_block14\_concat[0][0]',

ate) 1376) 'conv5\_block15\_2\_conv[0][0]']

conv5\_block16\_0\_bn (BatchNorma (None, None, None, 5504 ['conv5\_block15\_concat[0][0]']

lization) 1376)

conv5\_block16\_0\_relu (Activati (None, None, None, 0 ['conv5\_block16\_0\_bn[0][0]']

on) 1376)

conv5\_block16\_1\_conv (Conv2D) (None, None, None, 176128 ['conv5\_block16\_0\_relu[0][0]']

128)

conv5\_block16\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block16\_1\_conv[0][0]']

lization) 128)

conv5\_block16\_1\_relu (Activati (None, None, None, 0 ['conv5\_block16\_1\_bn[0][0]']

on) 128)

conv5\_block16\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block16\_1\_relu[0][0]']

32)

conv5\_block16\_concat (Concaten (None, None, None, 0 ['conv5\_block15\_concat[0][0]',

ate) 1408) 'conv5\_block16\_2\_conv[0][0]']

conv5\_block17\_0\_bn (BatchNorma (None, None, None, 5632 ['conv5\_block16\_concat[0][0]']

lization) 1408)

conv5\_block17\_0\_relu (Activati (None, None, None, 0 ['conv5\_block17\_0\_bn[0][0]']

on) 1408)

conv5\_block17\_1\_conv (Conv2D) (None, None, None, 180224 ['conv5\_block17\_0\_relu[0][0]']

128)

conv5\_block17\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block17\_1\_conv[0][0]']

lization) 128)

conv5\_block17\_1\_relu (Activati (None, None, None, 0 ['conv5\_block17\_1\_bn[0][0]']

on) 128)

conv5\_block17\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block17\_1\_relu[0][0]']

32)

conv5\_block17\_concat (Concaten (None, None, None, 0 ['conv5\_block16\_concat[0][0]',

ate) 1440) 'conv5\_block17\_2\_conv[0][0]']

conv5\_block18\_0\_bn (BatchNorma (None, None, None, 5760 ['conv5\_block17\_concat[0][0]']

lization) 1440)

conv5\_block18\_0\_relu (Activati (None, None, None, 0 ['conv5\_block18\_0\_bn[0][0]']

on) 1440)

conv5\_block18\_1\_conv (Conv2D) (None, None, None, 184320 ['conv5\_block18\_0\_relu[0][0]']

128)

conv5\_block18\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block18\_1\_conv[0][0]']

lization) 128)

conv5\_block18\_1\_relu (Activati (None, None, None, 0 ['conv5\_block18\_1\_bn[0][0]']

on) 128)

conv5\_block18\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block18\_1\_relu[0][0]']

32)

conv5\_block18\_concat (Concaten (None, None, None, 0 ['conv5\_block17\_concat[0][0]',

ate) 1472) 'conv5\_block18\_2\_conv[0][0]']

conv5\_block19\_0\_bn (BatchNorma (None, None, None, 5888 ['conv5\_block18\_concat[0][0]']

lization) 1472)

conv5\_block19\_0\_relu (Activati (None, None, None, 0 ['conv5\_block19\_0\_bn[0][0]']

on) 1472)

conv5\_block19\_1\_conv (Conv2D) (None, None, None, 188416 ['conv5\_block19\_0\_relu[0][0]']

128)

conv5\_block19\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block19\_1\_conv[0][0]']

lization) 128)

conv5\_block19\_1\_relu (Activati (None, None, None, 0 ['conv5\_block19\_1\_bn[0][0]']

on) 128)

conv5\_block19\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block19\_1\_relu[0][0]']

32)

conv5\_block19\_concat (Concaten (None, None, None, 0 ['conv5\_block18\_concat[0][0]',

ate) 1504) 'conv5\_block19\_2\_conv[0][0]']

conv5\_block20\_0\_bn (BatchNorma (None, None, None, 6016 ['conv5\_block19\_concat[0][0]']

lization) 1504)

conv5\_block20\_0\_relu (Activati (None, None, None, 0 ['conv5\_block20\_0\_bn[0][0]']

on) 1504)

conv5\_block20\_1\_conv (Conv2D) (None, None, None, 192512 ['conv5\_block20\_0\_relu[0][0]']

128)

conv5\_block20\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block20\_1\_conv[0][0]']

lization) 128)

conv5\_block20\_1\_relu (Activati (None, None, None, 0 ['conv5\_block20\_1\_bn[0][0]']

on) 128)

conv5\_block20\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block20\_1\_relu[0][0]']

32)

conv5\_block20\_concat (Concaten (None, None, None, 0 ['conv5\_block19\_concat[0][0]',

ate) 1536) 'conv5\_block20\_2\_conv[0][0]']

conv5\_block21\_0\_bn (BatchNorma (None, None, None, 6144 ['conv5\_block20\_concat[0][0]']

lization) 1536)

conv5\_block21\_0\_relu (Activati (None, None, None, 0 ['conv5\_block21\_0\_bn[0][0]']

on) 1536)

conv5\_block21\_1\_conv (Conv2D) (None, None, None, 196608 ['conv5\_block21\_0\_relu[0][0]']

128)

conv5\_block21\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block21\_1\_conv[0][0]']

lization) 128)

conv5\_block21\_1\_relu (Activati (None, None, None, 0 ['conv5\_block21\_1\_bn[0][0]']

on) 128)

conv5\_block21\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block21\_1\_relu[0][0]']

32)

conv5\_block21\_concat (Concaten (None, None, None, 0 ['conv5\_block20\_concat[0][0]',

ate) 1568) 'conv5\_block21\_2\_conv[0][0]']

conv5\_block22\_0\_bn (BatchNorma (None, None, None, 6272 ['conv5\_block21\_concat[0][0]']

lization) 1568)

conv5\_block22\_0\_relu (Activati (None, None, None, 0 ['conv5\_block22\_0\_bn[0][0]']

on) 1568)

conv5\_block22\_1\_conv (Conv2D) (None, None, None, 200704 ['conv5\_block22\_0\_relu[0][0]']

128)

conv5\_block22\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block22\_1\_conv[0][0]']

lization) 128)

conv5\_block22\_1\_relu (Activati (None, None, None, 0 ['conv5\_block22\_1\_bn[0][0]']

on) 128)

conv5\_block22\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block22\_1\_relu[0][0]']

32)

conv5\_block22\_concat (Concaten (None, None, None, 0 ['conv5\_block21\_concat[0][0]',

ate) 1600) 'conv5\_block22\_2\_conv[0][0]']

conv5\_block23\_0\_bn (BatchNorma (None, None, None, 6400 ['conv5\_block22\_concat[0][0]']

lization) 1600)

conv5\_block23\_0\_relu (Activati (None, None, None, 0 ['conv5\_block23\_0\_bn[0][0]']

on) 1600)

conv5\_block23\_1\_conv (Conv2D) (None, None, None, 204800 ['conv5\_block23\_0\_relu[0][0]']

128)

conv5\_block23\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block23\_1\_conv[0][0]']

lization) 128)

conv5\_block23\_1\_relu (Activati (None, None, None, 0 ['conv5\_block23\_1\_bn[0][0]']

on) 128)

conv5\_block23\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block23\_1\_relu[0][0]']

32)

conv5\_block23\_concat (Concaten (None, None, None, 0 ['conv5\_block22\_concat[0][0]',

ate) 1632) 'conv5\_block23\_2\_conv[0][0]']

conv5\_block24\_0\_bn (BatchNorma (None, None, None, 6528 ['conv5\_block23\_concat[0][0]']

lization) 1632)

conv5\_block24\_0\_relu (Activati (None, None, None, 0 ['conv5\_block24\_0\_bn[0][0]']

on) 1632)

conv5\_block24\_1\_conv (Conv2D) (None, None, None, 208896 ['conv5\_block24\_0\_relu[0][0]']

128)

conv5\_block24\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block24\_1\_conv[0][0]']

lization) 128)

conv5\_block24\_1\_relu (Activati (None, None, None, 0 ['conv5\_block24\_1\_bn[0][0]']

on) 128)

conv5\_block24\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block24\_1\_relu[0][0]']

32)

conv5\_block24\_concat (Concaten (None, None, None, 0 ['conv5\_block23\_concat[0][0]',

ate) 1664) 'conv5\_block24\_2\_conv[0][0]']

conv5\_block25\_0\_bn (BatchNorma (None, None, None, 6656 ['conv5\_block24\_concat[0][0]']

lization) 1664)

conv5\_block25\_0\_relu (Activati (None, None, None, 0 ['conv5\_block25\_0\_bn[0][0]']

on) 1664)

conv5\_block25\_1\_conv (Conv2D) (None, None, None, 212992 ['conv5\_block25\_0\_relu[0][0]']

128)

conv5\_block25\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block25\_1\_conv[0][0]']

lization) 128)

conv5\_block25\_1\_relu (Activati (None, None, None, 0 ['conv5\_block25\_1\_bn[0][0]']

on) 128)

conv5\_block25\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block25\_1\_relu[0][0]']

32)

conv5\_block25\_concat (Concaten (None, None, None, 0 ['conv5\_block24\_concat[0][0]',

ate) 1696) 'conv5\_block25\_2\_conv[0][0]']

conv5\_block26\_0\_bn (BatchNorma (None, None, None, 6784 ['conv5\_block25\_concat[0][0]']

lization) 1696)

conv5\_block26\_0\_relu (Activati (None, None, None, 0 ['conv5\_block26\_0\_bn[0][0]']

on) 1696)

conv5\_block26\_1\_conv (Conv2D) (None, None, None, 217088 ['conv5\_block26\_0\_relu[0][0]']

128)

conv5\_block26\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block26\_1\_conv[0][0]']

lization) 128)

conv5\_block26\_1\_relu (Activati (None, None, None, 0 ['conv5\_block26\_1\_bn[0][0]']

on) 128)

conv5\_block26\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block26\_1\_relu[0][0]']

32)

conv5\_block26\_concat (Concaten (None, None, None, 0 ['conv5\_block25\_concat[0][0]',

ate) 1728) 'conv5\_block26\_2\_conv[0][0]']

conv5\_block27\_0\_bn (BatchNorma (None, None, None, 6912 ['conv5\_block26\_concat[0][0]']

lization) 1728)

conv5\_block27\_0\_relu (Activati (None, None, None, 0 ['conv5\_block27\_0\_bn[0][0]']

on) 1728)

conv5\_block27\_1\_conv (Conv2D) (None, None, None, 221184 ['conv5\_block27\_0\_relu[0][0]']

128)

conv5\_block27\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block27\_1\_conv[0][0]']

lization) 128)

conv5\_block27\_1\_relu (Activati (None, None, None, 0 ['conv5\_block27\_1\_bn[0][0]']

on) 128)

conv5\_block27\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block27\_1\_relu[0][0]']

32)

conv5\_block27\_concat (Concaten (None, None, None, 0 ['conv5\_block26\_concat[0][0]',

ate) 1760) 'conv5\_block27\_2\_conv[0][0]']

conv5\_block28\_0\_bn (BatchNorma (None, None, None, 7040 ['conv5\_block27\_concat[0][0]']

lization) 1760)

conv5\_block28\_0\_relu (Activati (None, None, None, 0 ['conv5\_block28\_0\_bn[0][0]']

on) 1760)

conv5\_block28\_1\_conv (Conv2D) (None, None, None, 225280 ['conv5\_block28\_0\_relu[0][0]']

128)

conv5\_block28\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block28\_1\_conv[0][0]']

lization) 128)

conv5\_block28\_1\_relu (Activati (None, None, None, 0 ['conv5\_block28\_1\_bn[0][0]']

on) 128)

conv5\_block28\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block28\_1\_relu[0][0]']

32)

conv5\_block28\_concat (Concaten (None, None, None, 0 ['conv5\_block27\_concat[0][0]',

ate) 1792) 'conv5\_block28\_2\_conv[0][0]']

conv5\_block29\_0\_bn (BatchNorma (None, None, None, 7168 ['conv5\_block28\_concat[0][0]']

lization) 1792)

conv5\_block29\_0\_relu (Activati (None, None, None, 0 ['conv5\_block29\_0\_bn[0][0]']

on) 1792)

conv5\_block29\_1\_conv (Conv2D) (None, None, None, 229376 ['conv5\_block29\_0\_relu[0][0]']

128)

conv5\_block29\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block29\_1\_conv[0][0]']

lization) 128)

conv5\_block29\_1\_relu (Activati (None, None, None, 0 ['conv5\_block29\_1\_bn[0][0]']

on) 128)

conv5\_block29\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block29\_1\_relu[0][0]']

32)

conv5\_block29\_concat (Concaten (None, None, None, 0 ['conv5\_block28\_concat[0][0]',

ate) 1824) 'conv5\_block29\_2\_conv[0][0]']

conv5\_block30\_0\_bn (BatchNorma (None, None, None, 7296 ['conv5\_block29\_concat[0][0]']

lization) 1824)

conv5\_block30\_0\_relu (Activati (None, None, None, 0 ['conv5\_block30\_0\_bn[0][0]']

on) 1824)

conv5\_block30\_1\_conv (Conv2D) (None, None, None, 233472 ['conv5\_block30\_0\_relu[0][0]']

128)

conv5\_block30\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block30\_1\_conv[0][0]']

lization) 128)

conv5\_block30\_1\_relu (Activati (None, None, None, 0 ['conv5\_block30\_1\_bn[0][0]']

on) 128)

conv5\_block30\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block30\_1\_relu[0][0]']

32)

conv5\_block30\_concat (Concaten (None, None, None, 0 ['conv5\_block29\_concat[0][0]',

ate) 1856) 'conv5\_block30\_2\_conv[0][0]']

conv5\_block31\_0\_bn (BatchNorma (None, None, None, 7424 ['conv5\_block30\_concat[0][0]']

lization) 1856)

conv5\_block31\_0\_relu (Activati (None, None, None, 0 ['conv5\_block31\_0\_bn[0][0]']

on) 1856)

conv5\_block31\_1\_conv (Conv2D) (None, None, None, 237568 ['conv5\_block31\_0\_relu[0][0]']

128)

conv5\_block31\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block31\_1\_conv[0][0]']

lization) 128)

conv5\_block31\_1\_relu (Activati (None, None, None, 0 ['conv5\_block31\_1\_bn[0][0]']

on) 128)

conv5\_block31\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block31\_1\_relu[0][0]']

32)

conv5\_block31\_concat (Concaten (None, None, None, 0 ['conv5\_block30\_concat[0][0]',

ate) 1888) 'conv5\_block31\_2\_conv[0][0]']

conv5\_block32\_0\_bn (BatchNorma (None, None, None, 7552 ['conv5\_block31\_concat[0][0]']

lization) 1888)

conv5\_block32\_0\_relu (Activati (None, None, None, 0 ['conv5\_block32\_0\_bn[0][0]']

on) 1888)

conv5\_block32\_1\_conv (Conv2D) (None, None, None, 241664 ['conv5\_block32\_0\_relu[0][0]']

128)

conv5\_block32\_1\_bn (BatchNorma (None, None, None, 512 ['conv5\_block32\_1\_conv[0][0]']

lization) 128)

conv5\_block32\_1\_relu (Activati (None, None, None, 0 ['conv5\_block32\_1\_bn[0][0]']

on) 128)

conv5\_block32\_2\_conv (Conv2D) (None, None, None, 36864 ['conv5\_block32\_1\_relu[0][0]']

32)

conv5\_block32\_concat (Concaten (None, None, None, 0 ['conv5\_block31\_concat[0][0]',

ate) 1920) 'conv5\_block32\_2\_conv[0][0]']

bn (BatchNormalization) (None, None, None, 7680 ['conv5\_block32\_concat[0][0]']

1920)

relu (Activation) (None, None, None, 0 ['bn[0][0]']

1920)

decoder\_stage0\_upsampling (UpS (None, None, None, 0 ['relu[0][0]']

ampling2D) 1920)

decoder\_stage0\_concat (Concate (None, None, None, 0 ['decoder\_stage0\_upsampling[0][0]

nate) 2816) ',

'pool4\_conv[0][0]']

decoder\_stage0a\_conv (Conv2D) (None, None, None, 6488064 ['decoder\_stage0\_concat[0][0]']

256)

decoder\_stage0a\_bn (BatchNorma (None, None, None, 1024 ['decoder\_stage0a\_conv[0][0]']

lization) 256)

decoder\_stage0a\_relu (Activati (None, None, None, 0 ['decoder\_stage0a\_bn[0][0]']

on) 256)

decoder\_stage0b\_conv (Conv2D) (None, None, None, 589824 ['decoder\_stage0a\_relu[0][0]']

256)

decoder\_stage0b\_bn (BatchNorma (None, None, None, 1024 ['decoder\_stage0b\_conv[0][0]']

lization) 256)

decoder\_stage0b\_relu (Activati (None, None, None, 0 ['decoder\_stage0b\_bn[0][0]']

on) 256)

decoder\_stage1\_upsampling (UpS (None, None, None, 0 ['decoder\_stage0b\_relu[0][0]']

ampling2D) 256)

decoder\_stage1\_concat (Concate (None, None, None, 0 ['decoder\_stage1\_upsampling[0][0]

nate) 512) ',

'pool3\_conv[0][0]']

decoder\_stage1a\_conv (Conv2D) (None, None, None, 589824 ['decoder\_stage1\_concat[0][0]']

128)

decoder\_stage1a\_bn (BatchNorma (None, None, None, 512 ['decoder\_stage1a\_conv[0][0]']

lization) 128)

decoder\_stage1a\_relu (Activati (None, None, None, 0 ['decoder\_stage1a\_bn[0][0]']

on) 128)

decoder\_stage1b\_conv (Conv2D) (None, None, None, 147456 ['decoder\_stage1a\_relu[0][0]']

128)

decoder\_stage1b\_bn (BatchNorma (None, None, None, 512 ['decoder\_stage1b\_conv[0][0]']

lization) 128)

decoder\_stage1b\_relu (Activati (None, None, None, 0 ['decoder\_stage1b\_bn[0][0]']

on) 128)

decoder\_stage2\_upsampling (UpS (None, None, None, 0 ['decoder\_stage1b\_relu[0][0]']

ampling2D) 128)

decoder\_stage2\_concat (Concate (None, None, None, 0 ['decoder\_stage2\_upsampling[0][0]

nate) 256) ',

'pool2\_conv[0][0]']

decoder\_stage2a\_conv (Conv2D) (None, None, None, 147456 ['decoder\_stage2\_concat[0][0]']

64)

decoder\_stage2a\_bn (BatchNorma (None, None, None, 256 ['decoder\_stage2a\_conv[0][0]']

lization) 64)

decoder\_stage2a\_relu (Activati (None, None, None, 0 ['decoder\_stage2a\_bn[0][0]']

on) 64)

decoder\_stage2b\_conv (Conv2D) (None, None, None, 36864 ['decoder\_stage2a\_relu[0][0]']

64)

decoder\_stage2b\_bn (BatchNorma (None, None, None, 256 ['decoder\_stage2b\_conv[0][0]']

lization) 64)

decoder\_stage2b\_relu (Activati (None, None, None, 0 ['decoder\_stage2b\_bn[0][0]']

on) 64)

decoder\_stage3\_upsampling (UpS (None, None, None, 0 ['decoder\_stage2b\_relu[0][0]']

ampling2D) 64)

decoder\_stage3\_concat (Concate (None, None, None, 0 ['decoder\_stage3\_upsampling[0][0]

nate) 128) ',

'conv1/relu[0][0]']

decoder\_stage3a\_conv (Conv2D) (None, None, None, 36864 ['decoder\_stage3\_concat[0][0]']

32)

decoder\_stage3a\_bn (BatchNorma (None, None, None, 128 ['decoder\_stage3a\_conv[0][0]']

lization) 32)

decoder\_stage3a\_relu (Activati (None, None, None, 0 ['decoder\_stage3a\_bn[0][0]']

on) 32)

decoder\_stage3b\_conv (Conv2D) (None, None, None, 9216 ['decoder\_stage3a\_relu[0][0]']

32)

decoder\_stage3b\_bn (BatchNorma (None, None, None, 128 ['decoder\_stage3b\_conv[0][0]']

lization) 32)

decoder\_stage3b\_relu (Activati (None, None, None, 0 ['decoder\_stage3b\_bn[0][0]']

on) 32)

decoder\_stage4\_upsampling (UpS (None, None, None, 0 ['decoder\_stage3b\_relu[0][0]']

ampling2D) 32)

decoder\_stage4a\_conv (Conv2D) (None, None, None, 4608 ['decoder\_stage4\_upsampling[0][0]

16) ']

decoder\_stage4a\_bn (BatchNorma (None, None, None, 64 ['decoder\_stage4a\_conv[0][0]']

lization) 16)

decoder\_stage4a\_relu (Activati (None, None, None, 0 ['decoder\_stage4a\_bn[0][0]']

on) 16)

decoder\_stage4b\_conv (Conv2D) (None, None, None, 2304 ['decoder\_stage4a\_relu[0][0]']

16)

decoder\_stage4b\_bn (BatchNorma (None, None, None, 64 ['decoder\_stage4b\_conv[0][0]']

lization) 16)

decoder\_stage4b\_relu (Activati (None, None, None, 0 ['decoder\_stage4b\_bn[0][0]']

on) 16)

final\_conv (Conv2D) (None, None, None, 145 ['decoder\_stage4b\_relu[0][0]']

1)

sigmoid (Activation) (None, None, None, 0 ['final\_conv[0][0]']

1)

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

Total params: 26,378,577

Trainable params: 26,147,537

Non-trainable params: 231,040

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None