Assignment 3			
Maximum Marks:		Instructor: Dr. Muhammad Moazam Fraz	
Submission Date: **06**/**12**/2021		Type: Code Report	
Name: Muhammad Ali	Reg. #: 329159	Degree: MS DS F20	Section: Fall 2020

Option 1 Inceptionv3(backbone) **U-Net vs EfficientB7**(backbone) **U-Net**
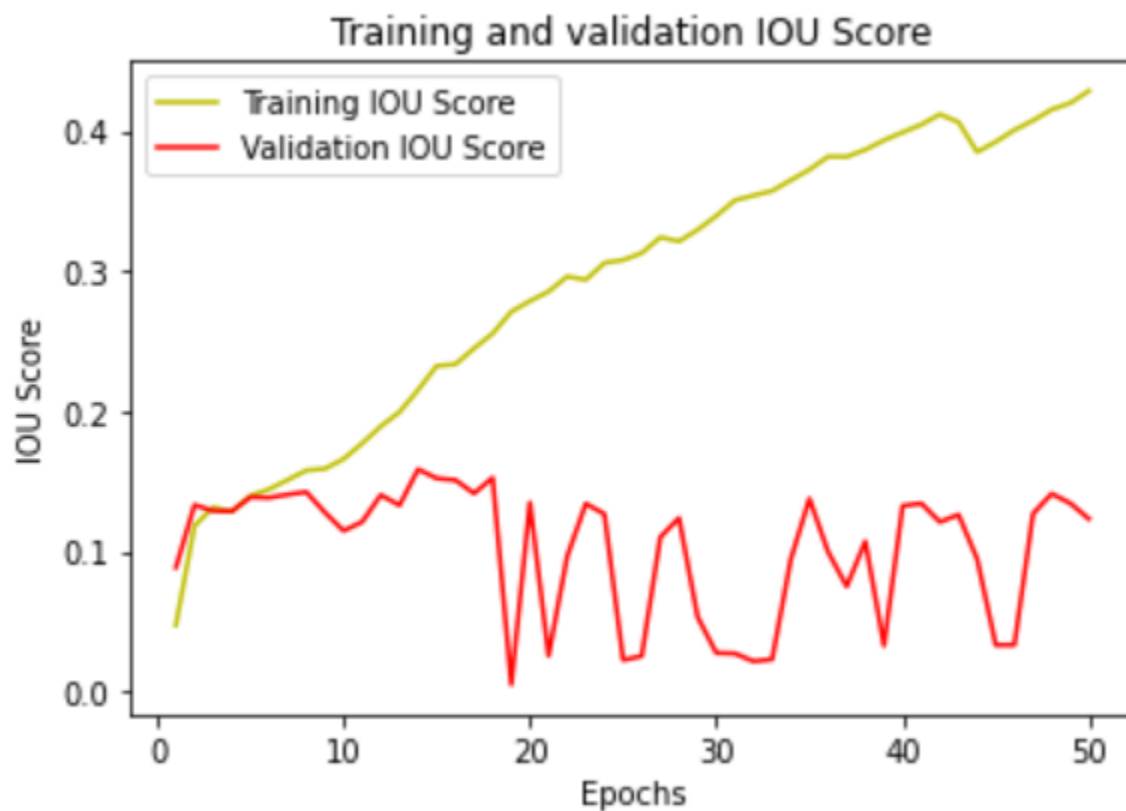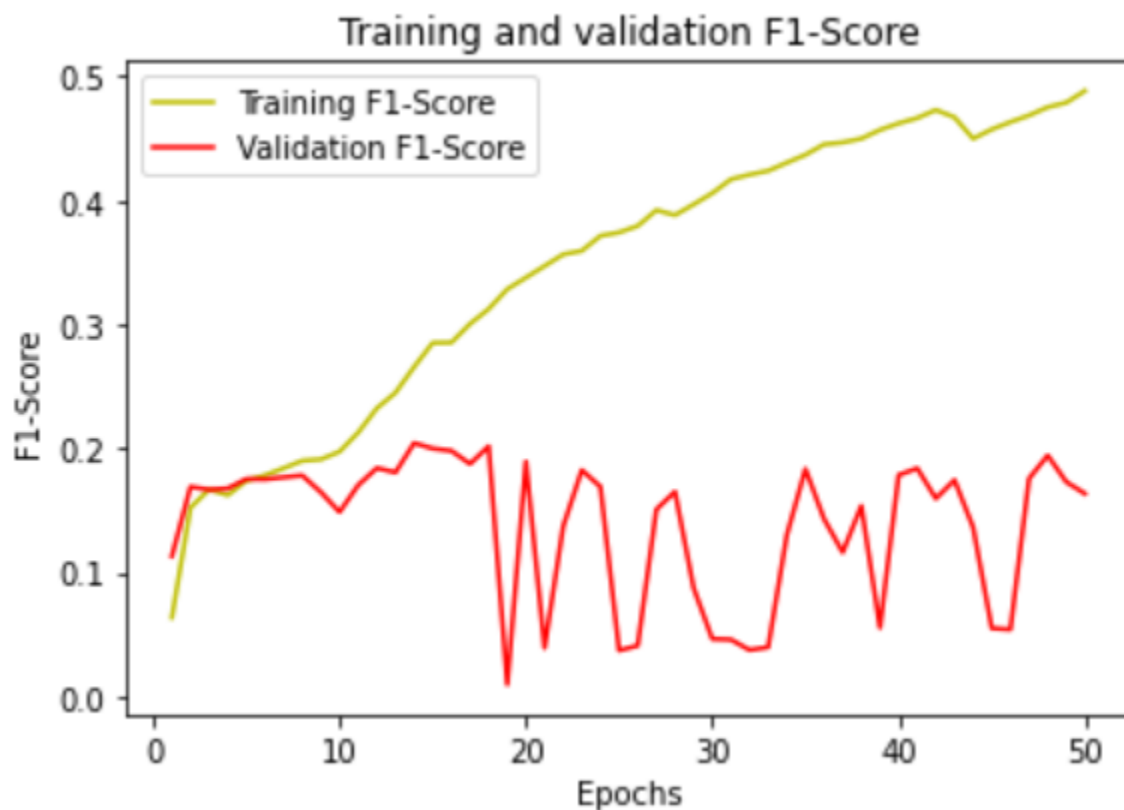
Comparison

U_Net Model	Inceptionv3(backbone)	EfficientB7(backbone)
Epochs	50	50
Batch Size	8	8
Learning Rate	0.0001	0.0001
Training Images	293	293
Validation Images	74	74
Testing Images	101	101
Training F1 score	0.7312	0.4884
Training IOU score	0.6382	0.4284
Training Loss	0.9467	0.3724
Validation F1 score	0.3623	0.1636
Validation IOU score	0.2738	0.1232
Validation Loss	0.9969	2.7814
Testing F1 score	0.1907	0.1343
Testing IOU Score	0.1900	0.1340
Testing Loss	1.0147	1.0398
Total params	29,934,700	75,049,692
Trainable params	29,898,284	74,736,988
Non-trainable params	36,416	312,704
Training Time	3021 (seconds)	9458 (seconds)
Inference Time	28.9(seconds)	59 (seconds)

Inceptionv3(backbone) U-Net

Transfer Learning

Inceptionv3 is used as backbone in this model architecture. Inceptionv3 is performing encoding and decoding. For predicting each pixel label U Net architecture is used.

Training and validation F1-Score

Training and validation IOU Score

Training loss vs Validation loss

Training and validation loss

Qualitative Results Inceptionv3 Backbone U-Net

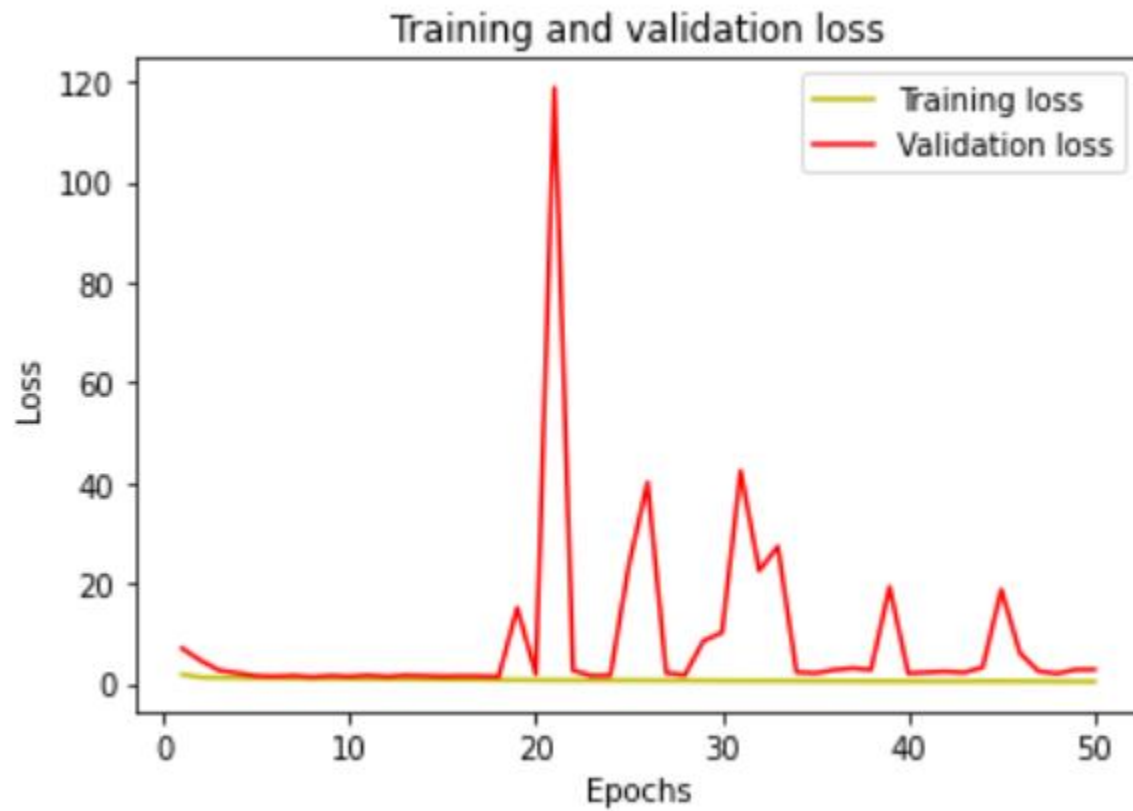# EfficientNetB7 (backbone) U-Net

Transfer Learning

EfficientNetB7 is used as backbone in this model architecture. EfficientNetB7 is performing encoding and decoding. For predicting each pixel label U Net architecture is used.
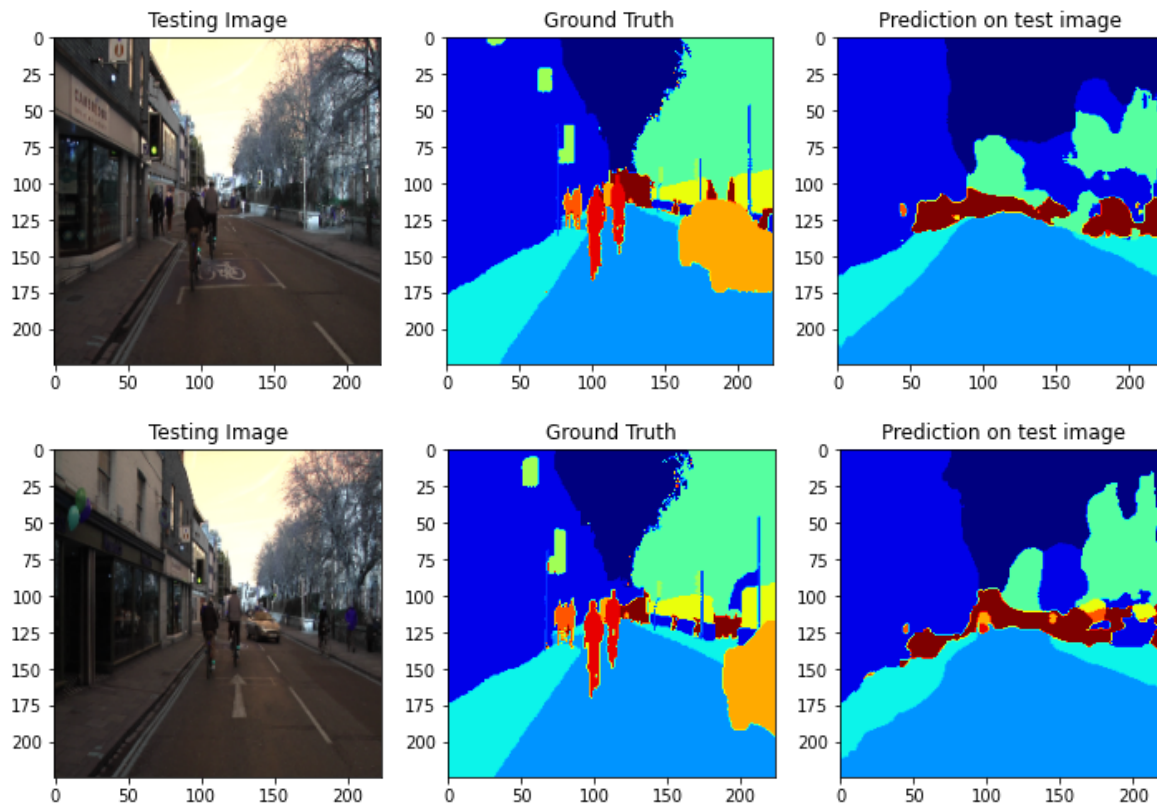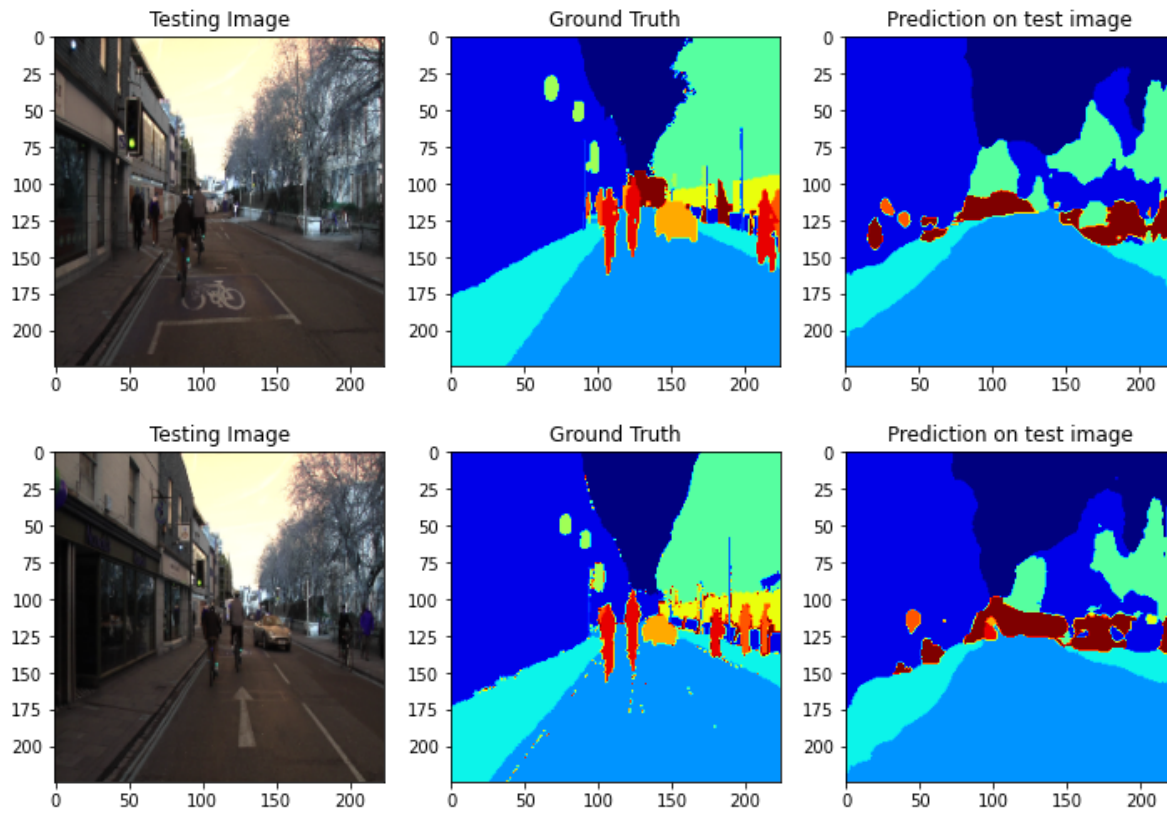
Training Accuracy Validation Accuracy

Training and validation F1-Score

Training and validation IOU Score
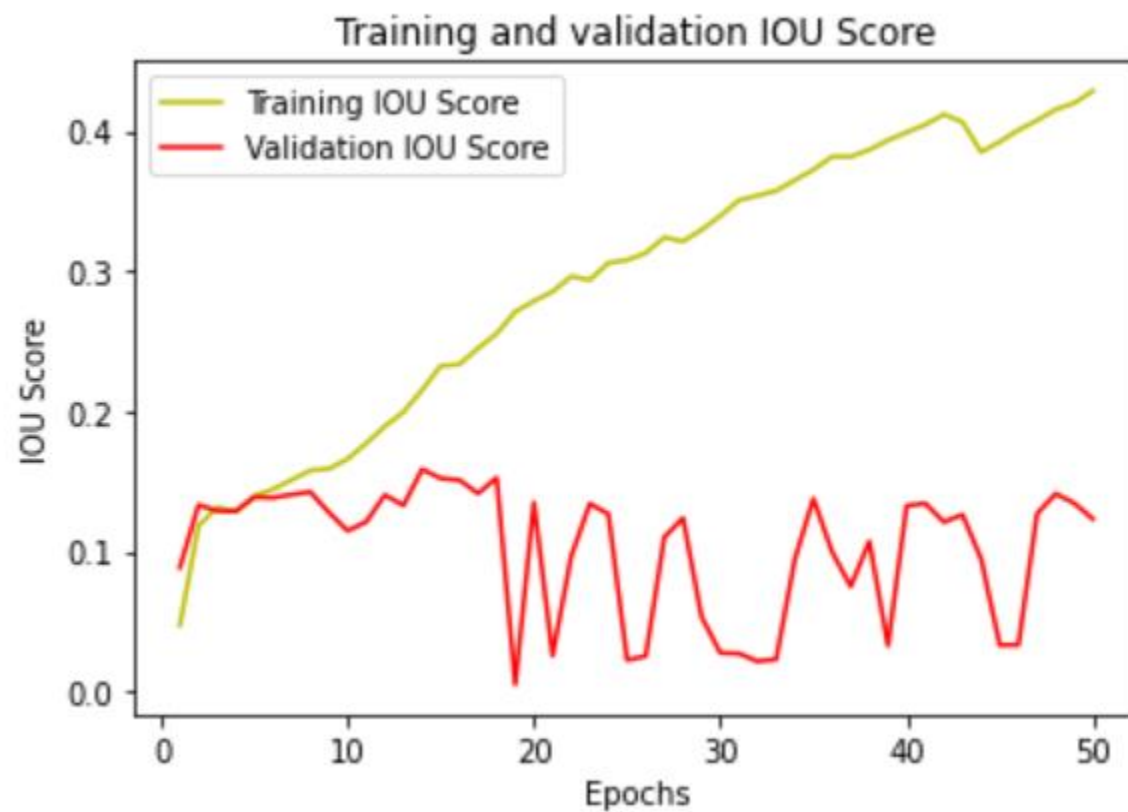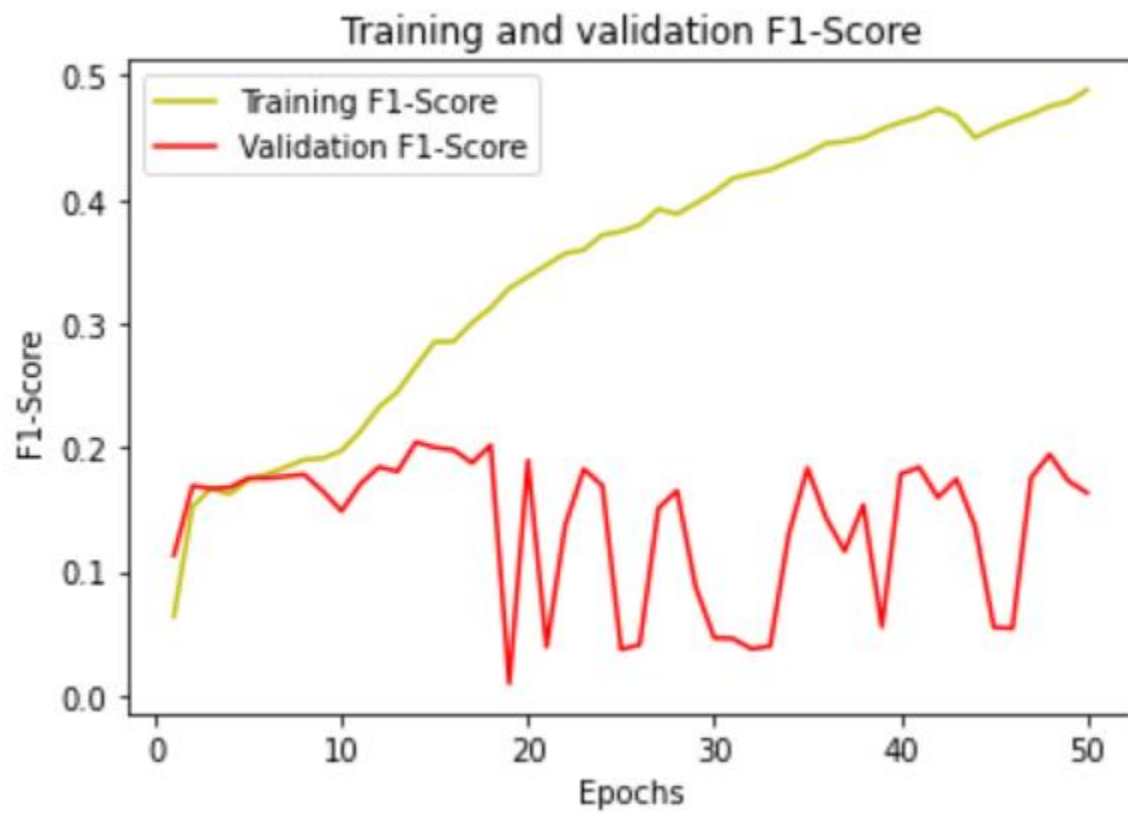
Training loss vs Validation loss
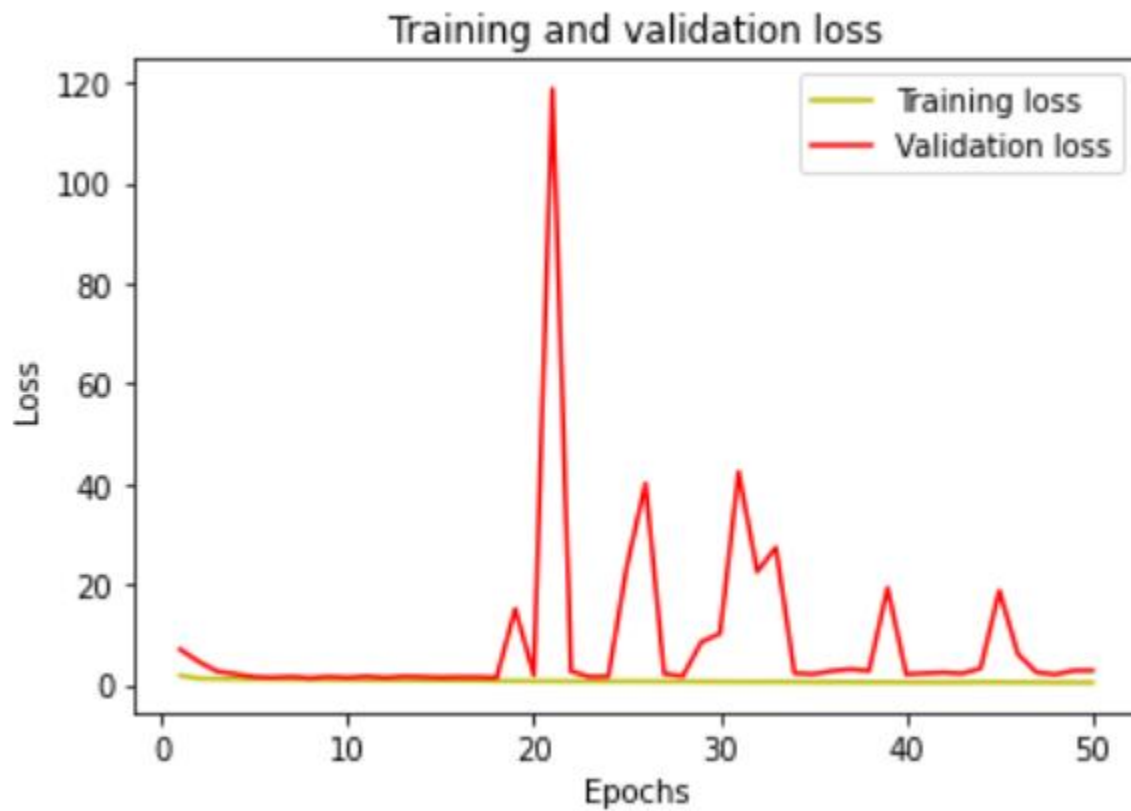
Qualitative Results EfficientNetB7 Backbone U-Net
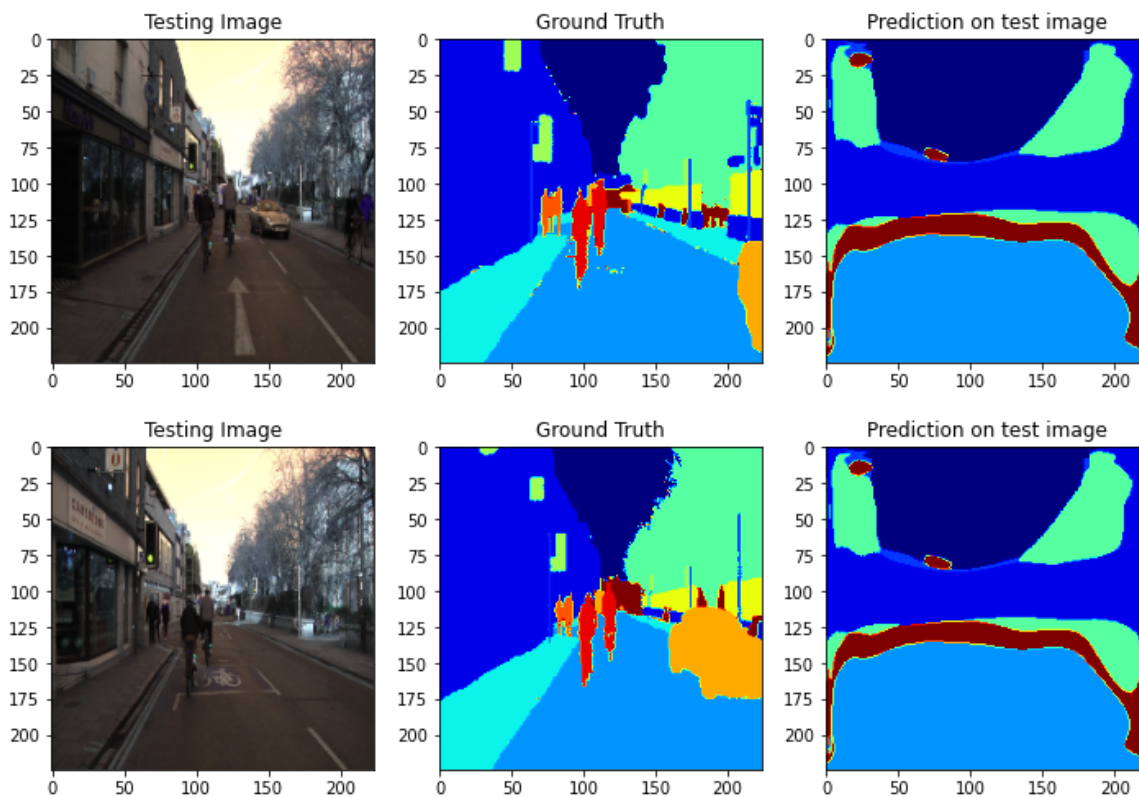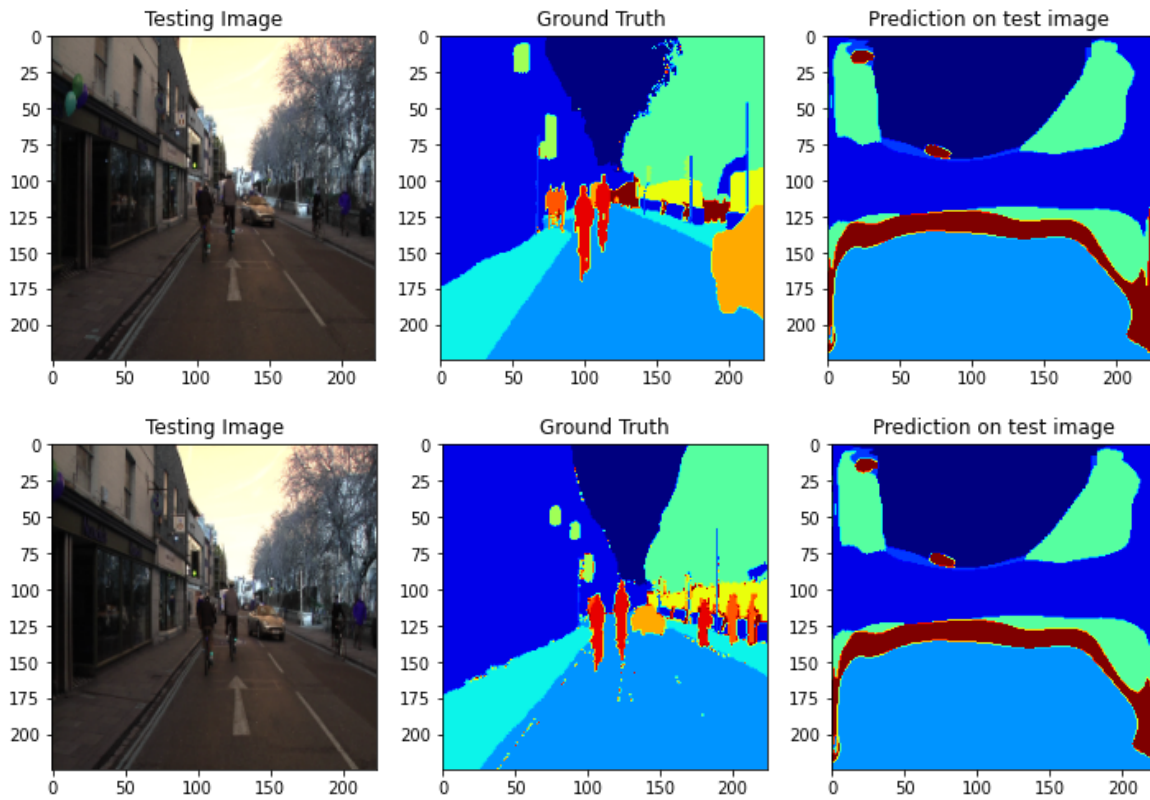
Model Architecture U Net Inceptionv3 as backbone

```
Model: "model_1"
_____

_____
 Layer (type)                   Output Shape          Param #      Connected to
================================================================================
=================
 input_2 (InputLayer)           [(None, None, None,   0            []
                                 3)]

 conv2d_94 (Conv2D)             (None, None, None,    864          ['input_2[0][0]']
                                 32)

 batch_normalization_94 (BatchN (None, None, None,     96
['conv2d_94[0][0]']
 ormalization)                  32)

 activation_94 (Activation)     (None, None, None,    0
['batch_normalization_94[0][0]']
                                 32)

 conv2d_95 (Conv2D)             (None, None, None,    9216
['activation_94[0][0]']

                                 32)

 batch_normalization_95 (BatchN (None, None, None,     96
['conv2d_95[0][0]']
 ormalization)                  32)
```

```
 activation_95 (Activation)        (None, None, None,    0
['batch_normalization_95[0][0]']
                                   32)


 conv2d_96 (Conv2D)                (None, None, None,    18432
['activation_95[0][0]']
                                   64)


 batch_normalization_96 (BatchN    (None, None, None,    192
['conv2d_96[0][0]']
 ormalization)                     64)


 activation_96 (Activation)        (None, None, None,    0
['batch_normalization_96[0][0]']
                                   64)


 max_pooling2d_4 (MaxPooling2D)    (None, None, None,    0
['activation_96[0][0]']
                                   64)


 conv2d_97 (Conv2D)                (None, None, None,    5120
['max_pooling2d_4[0][0]']
                                   80)


 batch_normalization_97 (BatchN    (None, None, None,    240
['conv2d_97[0][0]']
 ormalization)                     80)


 activation_97 (Activation)        (None, None, None,    0
['batch_normalization_97[0][0]']
                                   80)


 conv2d_98 (Conv2D)                (None, None, None,    138240
['activation_97[0][0]']
                                   192)


 batch_normalization_98 (BatchN    (None, None, None,    576
['conv2d_98[0][0]']
 ormalization)                     192)


 activation_98 (Activation)        (None, None, None,    0
['batch_normalization_98[0][0]']
                                   192)


 max_pooling2d_5 (MaxPooling2D)    (None, None, None,    0
['activation_98[0][0]']
                                   192)


 conv2d_102 (Conv2D)               (None, None, None,    12288
['max_pooling2d_5[0][0]']
                                   64)


 batch_normalization_102 (Batch    (None, None, None,    192
['conv2d_102[0][0]']
 Normalization)                    64)
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```
 activation_102 (Activation)      (None, None, None,    0
['batch_normalization_102[0][0]']
                                   64)

 conv2d_100 (Conv2D)              (None, None, None,    9216
['max_pooling2d_5[0][0]']
                                   48)

 conv2d_103 (Conv2D)              (None, None, None,    55296
['activation_102[0][0]']
                                   96)

 batch_normalization_100 (Batch   (None, None, None,    144
['conv2d_100[0][0]']
 Normalization)                    48)

 batch_normalization_103 (Batch   (None, None, None,    288
['conv2d_103[0][0]']
 Normalization)                    96)

 activation_100 (Activation)      (None, None, None,    0
['batch_normalization_100[0][0]']
                                   48)

 activation_103 (Activation)      (None, None, None,    0
['batch_normalization_103[0][0]']
                                   96)

 average_pooling2d_9 (AveragePo   (None, None, None,    0
['max_pooling2d_5[0][0]']
 oling2D)                          192)

 conv2d_99 (Conv2D)               (None, None, None,    12288
['max_pooling2d_5[0][0]']
                                   64)

 conv2d_101 (Conv2D)              (None, None, None,    76800
['activation_100[0][0]']
                                   64)

 conv2d_104 (Conv2D)              (None, None, None,    82944
['activation_103[0][0]']
                                   96)

 conv2d_105 (Conv2D)              (None, None, None,    6144
['average_pooling2d_9[0][0]']
                                   32)

 batch_normalization_99 (BatchN   (None, None, None,    192
['conv2d_99[0][0]']
 ormalization)                     64)

 batch_normalization_101 (Batch   (None, None, None,    192
['conv2d_101[0][0]']
 Normalization)                    64)
```

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batch_normalization_104 (Batch    (None, None, None,    288    ['conv2d_104[0][0]']
Normalization)                     96)

batch_normalization_105 (Batch    (None, None, None,    96     ['conv2d_105[0][0]']
Normalization)                     32)

activation_99 (Activation)        (None, None, None,    0      ['batch_normalization_99[0][0]']
                                   64)

activation_101 (Activation)       (None, None, None,    0      ['batch_normalization_101[0][0]']
                                   64)

activation_104 (Activation)       (None, None, None,    0      ['batch_normalization_104[0][0]']
                                   96)

activation_105 (Activation)       (None, None, None,    0      ['batch_normalization_105[0][0]']
                                   32)

mixed0 (Concatenate)              (None, None, None,    0      ['activation_99[0][0]',
                                   256)                         'activation_101[0][0]',

                                                                'activation_104[0][0]',

                                                                'activation_105[0][0]']

conv2d_109 (Conv2D)               (None, None, None,    16384  ['mixed0[0][0]']
                                   64)

batch_normalization_109 (Batch    (None, None, None,    192    ['conv2d_109[0][0]']
Normalization)                     64)

activation_109 (Activation)       (None, None, None,    0      ['batch_normalization_109[0][0]']
                                   64)

conv2d_107 (Conv2D)               (None, None, None,    12288  ['mixed0[0][0]']
                                   48)

conv2d_110 (Conv2D)               (None, None, None,    55296  ['activation_109[0][0]']
                                   96)

batch_normalization_107 (Batch    (None, None, None,    144    ['conv2d_107[0][0]']
Normalization)                     48)

batch_normalization_110 (Batch    (None, None, None,    288    ['conv2d_110[0][0]']
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Normalization)	96)		
activation_107 (Activation)	(None, None, None, 48)	0	['batch_normalization_107[0][0]']
activation_110 (Activation)	(None, None, None, 96)	0	['batch_normalization_110[0][0]']
average_pooling2d_10 (AverageP ooling2D)	(None, None, None, 256)	0	['mixed0[0][0]']
conv2d_106 (Conv2D)	(None, None, None, 64)	16384	['mixed0[0][0]']
conv2d_108 (Conv2D)	(None, None, None, 64)	76800	['activation_107[0][0]']
conv2d_111 (Conv2D)	(None, None, None, 96)	82944	['activation_110[0][0]']
conv2d_112 (Conv2D)	(None, None, None, 64)	16384	['average_pooling2d_10[0][0]']
batch_normalization_106 (Batch Normalization)	(None, None, None, 64)	192	['conv2d_106[0][0]']
batch_normalization_108 (Batch Normalization)	(None, None, None, 64)	192	['conv2d_108[0][0]']
batch_normalization_111 (Batch Normalization)	(None, None, None, 96)	288	['conv2d_111[0][0]']
batch_normalization_112 (Batch Normalization)	(None, None, None, 64)	192	['conv2d_112[0][0]']
activation_106 (Activation)	(None, None, None, 64)	0	['batch_normalization_106[0][0]']
activation_108 (Activation)	(None, None, None, 64)	0	['batch_normalization_108[0][0]']
activation_111 (Activation)	(None, None, None, 96)	0	['batch_normalization_111[0][0]']

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 activation_112 (Activation)       (None, None, None,    0
['batch_normalization_112[0][0]']
                                   64)

 mixed1 (Concatenate)              (None, None, None,    0
['activation_106[0][0]',
                                   288)
'activation_108[0][0]',

'activation_111[0][0]',

'activation_112[0][0]']

 conv2d_116 (Conv2D)              (None, None, None,    18432       ['mixed1[0][0]']
                                  64)

 batch_normalization_116 (Batch   (None, None, None,     192
['conv2d_116[0][0]']
 Normalization)                   64)

 activation_116 (Activation)      (None, None, None,     0
['batch_normalization_116[0][0]']
                                  64)

 conv2d_114 (Conv2D)              (None, None, None,    13824       ['mixed1[0][0]']
                                  48)

 conv2d_117 (Conv2D)              (None, None, None,    55296
['activation_116[0][0]']
                                  96)

 batch_normalization_114 (Batch   (None, None, None,     144
['conv2d_114[0][0]']
 Normalization)                   48)

 batch_normalization_117 (Batch   (None, None, None,     288
['conv2d_117[0][0]']
 Normalization)                   96)

 activation_114 (Activation)      (None, None, None,     0
['batch_normalization_114[0][0]']
                                  48)

 activation_117 (Activation)      (None, None, None,     0
['batch_normalization_117[0][0]']
                                  96)

 average_pooling2d_11 (AverageP   (None, None, None,     0          ['mixed1[0][0]']
 ooling2D)                        288)

 conv2d_113 (Conv2D)              (None, None, None,    18432       ['mixed1[0][0]']
                                  64)

 conv2d_115 (Conv2D)              (None, None, None,    76800
['activation_114[0][0]']
                                  64)
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 conv2d_118 (Conv2D)            (None, None, None,   82944
['activation_117[0][0]']
                                96)

 conv2d_119 (Conv2D)            (None, None, None,   18432
['average_pooling2d_11[0][0]']
                                64)

 batch_normalization_113 (Batch  (None, None, None,   192
['conv2d_113[0][0]']
 Normalization)                 64)

 batch_normalization_115 (Batch  (None, None, None,   192
['conv2d_115[0][0]']
 Normalization)                 64)

 batch_normalization_118 (Batch  (None, None, None,   288
['conv2d_118[0][0]']
 Normalization)                 96)

 batch_normalization_119 (Batch  (None, None, None,   192
['conv2d_119[0][0]']
 Normalization)                 64)

 activation_113 (Activation)    (None, None, None,   0
['batch_normalization_113[0][0]']
                                64)

 activation_115 (Activation)    (None, None, None,   0
['batch_normalization_115[0][0]']
                                64)

 activation_118 (Activation)    (None, None, None,   0
['batch_normalization_118[0][0]']
                                96)

 activation_119 (Activation)    (None, None, None,   0
['batch_normalization_119[0][0]']
                                64)

 mixed2 (Concatenate)           (None, None, None,   0
['activation_113[0][0]',
                                288)

'activation_115[0][0]',

'activation_118[0][0]',

'activation_119[0][0]']

 conv2d_121 (Conv2D)            (None, None, None,   18432       ['mixed2[0][0]']
                                64)

 batch_normalization_121 (Batch  (None, None, None,   192
['conv2d_121[0][0]']
 Normalization)                 64)
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```
 activation_121 (Activation)       (None, None, None,     0
['batch_normalization_121[0][0]']
                                   64)

 conv2d_122 (Conv2D)               (None, None, None,     55296
['activation_121[0][0]']
                                   96)

 batch_normalization_122 (Batch    (None, None, None,     288
['conv2d_122[0][0]']
 Normalization)                    96)

 activation_122 (Activation)       (None, None, None,     0
['batch_normalization_122[0][0]']
                                   96)

 conv2d_120 (Conv2D)               (None, None, None,     995328        ['mixed2[0][0]']
                                   384)

 conv2d_123 (Conv2D)               (None, None, None,     82944
['activation_122[0][0]']
                                   96)

 batch_normalization_120 (Batch    (None, None, None,     1152
['conv2d_120[0][0]']
 Normalization)                    384)

 batch_normalization_123 (Batch    (None, None, None,     288
['conv2d_123[0][0]']
 Normalization)                    96)

 activation_120 (Activation)       (None, None, None,     0
['batch_normalization_120[0][0]']
                                   384)

 activation_123 (Activation)       (None, None, None,     0
['batch_normalization_123[0][0]']
                                   96)

 max_pooling2d_6 (MaxPooling2D)    (None, None, None,     0             ['mixed2[0][0]']
                                   288)

 mixed3 (Concatenate)              (None, None, None,     0
['activation_120[0][0]',
                                   768)

'activation_123[0][0]',

'max_pooling2d_6[0][0]']

 conv2d_128 (Conv2D)               (None, None, None,     98304         ['mixed3[0][0]']
                                   128)

 batch_normalization_128 (Batch    (None, None, None,     384
['conv2d_128[0][0]']
 Normalization)                    128)
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```
 activation_128 (Activation)      (None, None, None,    0
['batch_normalization_128[0][0]']
                                  128)

 conv2d_129 (Conv2D)              (None, None, None,    114688
['activation_128[0][0]']
                                  128)

 batch_normalization_129 (Batch   (None, None, None,    384
['conv2d_129[0][0]']
 Normalization)                   128)

 activation_129 (Activation)      (None, None, None,    0
['batch_normalization_129[0][0]']
                                  128)

 conv2d_125 (Conv2D)              (None, None, None,    98304        ['mixed3[0][0]']
                                  128)

 conv2d_130 (Conv2D)              (None, None, None,    114688
['activation_129[0][0]']
                                  128)

 batch_normalization_125 (Batch   (None, None, None,    384
['conv2d_125[0][0]']
 Normalization)                   128)

 batch_normalization_130 (Batch   (None, None, None,    384
['conv2d_130[0][0]']
 Normalization)                   128)

 activation_125 (Activation)      (None, None, None,    0
['batch_normalization_125[0][0]']
                                  128)

 activation_130 (Activation)      (None, None, None,    0
['batch_normalization_130[0][0]']
                                  128)

 conv2d_126 (Conv2D)              (None, None, None,    114688
['activation_125[0][0]']
                                  128)

 conv2d_131 (Conv2D)              (None, None, None,    114688
['activation_130[0][0]']
                                  128)

 batch_normalization_126 (Batch   (None, None, None,    384
['conv2d_126[0][0]']
 Normalization)                   128)

 batch_normalization_131 (Batch   (None, None, None,    384
['conv2d_131[0][0]']
 Normalization)                   128)

 activation_126 (Activation)      (None, None, None,    0
['batch_normalization_126[0][0]']
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                                   128)

 activation_131 (Activation)     (None, None, None,     0
['batch_normalization_131[0][0]']
                                  128)

 average_pooling2d_12 (AverageP  (None, None, None,     0           ['mixed3[0][0]']
 ooling2D)                        768)

 conv2d_124 (Conv2D)             (None, None, None,     147456      ['mixed3[0][0]']
                                  192)

 conv2d_127 (Conv2D)             (None, None, None,     172032
['activation_126[0][0]']

                                  192)

 conv2d_132 (Conv2D)             (None, None, None,     172032
['activation_131[0][0]']

                                  192)

 conv2d_133 (Conv2D)             (None, None, None,     147456
['average_pooling2d_12[0][0]']

                                  192)

 batch_normalization_124 (Batch  (None, None, None,      576
['conv2d_124[0][0]']
 Normalization)                   192)

 batch_normalization_127 (Batch  (None, None, None,      576
['conv2d_127[0][0]']
 Normalization)                   192)

 batch_normalization_132 (Batch  (None, None, None,      576
['conv2d_132[0][0]']
 Normalization)                   192)

 batch_normalization_133 (Batch  (None, None, None,      576
['conv2d_133[0][0]']
 Normalization)                   192)

 activation_124 (Activation)     (None, None, None,      0
['batch_normalization_124[0][0]']
                                  192)

 activation_127 (Activation)     (None, None, None,      0
['batch_normalization_127[0][0]']
                                  192)

 activation_132 (Activation)     (None, None, None,      0
['batch_normalization_132[0][0]']
                                  192)

 activation_133 (Activation)     (None, None, None,      0
['batch_normalization_133[0][0]']
                                  192)
```

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 mixed4 (Concatenate)            (None, None, None,    0        ['activation_124[0][0]',
                                  768)
'activation_127[0][0]',

'activation_132[0][0]',

'activation_133[0][0]']

 conv2d_138 (Conv2D)            (None, None, None,   122880     ['mixed4[0][0]']
                                  160)

 batch_normalization_138 (Batch  (None, None, None,   480       ['conv2d_138[0][0]']
 Normalization)                  160)

 activation_138 (Activation)    (None, None, None,    0        ['batch_normalization_138[0][0]']
                                  160)

 conv2d_139 (Conv2D)            (None, None, None,   179200     ['activation_138[0][0]']
                                  160)

 batch_normalization_139 (Batch  (None, None, None,   480       ['conv2d_139[0][0]']
 Normalization)                  160)

 activation_139 (Activation)    (None, None, None,    0        ['batch_normalization_139[0][0]']
                                  160)

 conv2d_135 (Conv2D)            (None, None, None,   122880     ['mixed4[0][0]']
                                  160)

 conv2d_140 (Conv2D)            (None, None, None,   179200     ['activation_139[0][0]']
                                  160)

 batch_normalization_135 (Batch  (None, None, None,   480       ['conv2d_135[0][0]']
 Normalization)                  160)

 batch_normalization_140 (Batch  (None, None, None,   480       ['conv2d_140[0][0]']
 Normalization)                  160)

 activation_135 (Activation)    (None, None, None,    0        ['batch_normalization_135[0][0]']
                                  160)

 activation_140 (Activation)    (None, None, None,    0        ['batch_normalization_140[0][0]']
                                  160)

 conv2d_136 (Conv2D)            (None, None, None,   179200     ['activation_135[0][0]']
```

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                                160)

 conv2d_141 (Conv2D)            (None, None, None,    179200
['activation_140[0][0]']
                                160)

 batch_normalization_136 (Batch  (None, None, None,    480
['conv2d_136[0][0]']
 Normalization)                 160)

 batch_normalization_141 (Batch  (None, None, None,    480
['conv2d_141[0][0]']
 Normalization)                 160)

 activation_136 (Activation)    (None, None, None,    0
['batch_normalization_136[0][0]']
                                160)

 activation_141 (Activation)    (None, None, None,    0
['batch_normalization_141[0][0]']
                                160)

 average_pooling2d_13 (AverageP  (None, None, None,    0          ['mixed4[0][0]']
 ooling2D)                      768)

 conv2d_134 (Conv2D)            (None, None, None,    147456      ['mixed4[0][0]']
                                192)

 conv2d_137 (Conv2D)            (None, None, None,    215040
['activation_136[0][0]']
                                192)

 conv2d_142 (Conv2D)            (None, None, None,    215040
['activation_141[0][0]']
                                192)

 conv2d_143 (Conv2D)            (None, None, None,    147456
['average_pooling2d_13[0][0]']
                                192)

 batch_normalization_134 (Batch  (None, None, None,    576
['conv2d_134[0][0]']
 Normalization)                 192)

 batch_normalization_137 (Batch  (None, None, None,    576
['conv2d_137[0][0]']
 Normalization)                 192)

 batch_normalization_142 (Batch  (None, None, None,    576
['conv2d_142[0][0]']
 Normalization)                 192)

 batch_normalization_143 (Batch  (None, None, None,    576
['conv2d_143[0][0]']
 Normalization)                 192)
```

```
 activation_134 (Activation)     (None, None, None,    0          ['batch_normalization_134[0][0]']
                                 192)


 activation_137 (Activation)     (None, None, None,    0          ['batch_normalization_137[0][0]']
                                 192)


 activation_142 (Activation)     (None, None, None,    0          ['batch_normalization_142[0][0]']
                                 192)


 activation_143 (Activation)     (None, None, None,    0          ['batch_normalization_143[0][0]']
                                 192)


 mixed5 (Concatenate)            (None, None, None,    0          ['activation_134[0][0]',
                                 768)                              'activation_137[0][0]',

                                                                  'activation_142[0][0]',

                                                                  'activation_143[0][0]']

 conv2d_148 (Conv2D)             (None, None, None,    122880     ['mixed5[0][0]']
                                 160)

 batch_normalization_148 (Batch  (None, None, None,    480        ['conv2d_148[0][0]']
 Normalization)                  160)

 activation_148 (Activation)     (None, None, None,    0          ['batch_normalization_148[0][0]']
                                 160)

 conv2d_149 (Conv2D)             (None, None, None,    179200     ['activation_148[0][0]']
                                 160)

 batch_normalization_149 (Batch  (None, None, None,    480        ['conv2d_149[0][0]']
 Normalization)                  160)

 activation_149 (Activation)     (None, None, None,    0          ['batch_normalization_149[0][0]']
                                 160)

 conv2d_145 (Conv2D)             (None, None, None,    122880     ['mixed5[0][0]']
                                 160)

 conv2d_150 (Conv2D)             (None, None, None,    179200     ['activation_149[0][0]']
                                 160)

 batch_normalization_145 (Batch  (None, None, None,    480        ['conv2d_145[0][0]']
                                 160)
```

```
 Normalization)                 160)

 batch_normalization_150 (Batch  (None, None, None,   480
['conv2d_150[0][0]']
 Normalization)                 160)

 activation_145 (Activation)    (None, None, None,    0
['batch_normalization_145[0][0]']
                                160)

 activation_150 (Activation)    (None, None, None,    0
['batch_normalization_150[0][0]']
                                160)

 conv2d_146 (Conv2D)            (None, None, None,   179200
['activation_145[0][0]']
                                160)

 conv2d_151 (Conv2D)            (None, None, None,   179200
['activation_150[0][0]']
                                160)

 batch_normalization_146 (Batch  (None, None, None,   480
['conv2d_146[0][0]']
 Normalization)                 160)

 batch_normalization_151 (Batch  (None, None, None,   480
['conv2d_151[0][0]']
 Normalization)                 160)

 activation_146 (Activation)    (None, None, None,    0
['batch_normalization_146[0][0]']
                                160)

 activation_151 (Activation)    (None, None, None,    0
['batch_normalization_151[0][0]']
                                160)

 average_pooling2d_14 (AverageP  (None, None, None,    0          ['mixed5[0][0]']
 ooling2D)                      768)

 conv2d_144 (Conv2D)            (None, None, None,   147456       ['mixed5[0][0]']
                                192)

 conv2d_147 (Conv2D)            (None, None, None,   215040
['activation_146[0][0]']
                                192)

 conv2d_152 (Conv2D)            (None, None, None,   215040
['activation_151[0][0]']
                                192)

 conv2d_153 (Conv2D)            (None, None, None,   147456
['average_pooling2d_14[0][0]']
                                192)
```

```
 batch_normalization_144 (Batch   (None, None, None,    576     ['conv2d_144[0][0]']
 Normalization)                    192)

 batch_normalization_147 (Batch   (None, None, None,    576     ['conv2d_147[0][0]']
 Normalization)                    192)

 batch_normalization_152 (Batch   (None, None, None,    576     ['conv2d_152[0][0]']
 Normalization)                    192)

 batch_normalization_153 (Batch   (None, None, None,    576     ['conv2d_153[0][0]']
 Normalization)                    192)

 activation_144 (Activation)      (None, None, None,    0       ['batch_normalization_144[0][0]']
                                   192)

 activation_147 (Activation)      (None, None, None,    0       ['batch_normalization_147[0][0]']
                                   192)

 activation_152 (Activation)      (None, None, None,    0       ['batch_normalization_152[0][0]']
                                   192)

 activation_153 (Activation)      (None, None, None,    0       ['batch_normalization_153[0][0]']
                                   192)

 mixed6 (Concatenate)             (None, None, None,    0       ['activation_144[0][0]',
                                   768)
                                                                 'activation_147[0][0]',

                                                                 'activation_152[0][0]',

                                                                 'activation_153[0][0]']

 conv2d_158 (Conv2D)              (None, None, None,    147456  ['mixed6[0][0]']
                                   192)

 batch_normalization_158 (Batch   (None, None, None,    576     ['conv2d_158[0][0]']
 Normalization)                    192)

 activation_158 (Activation)      (None, None, None,    0       ['batch_normalization_158[0][0]']
                                   192)

 conv2d_159 (Conv2D)              (None, None, None,    258048  ['activation_158[0][0]']
                                   192)
```

```
 batch_normalization_159 (Batch   (None, None, None,    576     ['conv2d_159[0][0]']
['conv2d_159[0][0]']
 Normalization)                    192)

 activation_159 (Activation)      (None, None, None,     0      ['batch_normalization_159[0][0]']
['batch_normalization_159[0][0]']
                                   192)

 conv2d_155 (Conv2D)              (None, None, None,    147456   ['mixed6[0][0]']
                                   192)

 conv2d_160 (Conv2D)              (None, None, None,    258048   ['activation_159[0][0]']
['activation_159[0][0]']
                                   192)

 batch_normalization_155 (Batch   (None, None, None,    576     ['conv2d_155[0][0]']
['conv2d_155[0][0]']
 Normalization)                    192)

 batch_normalization_160 (Batch   (None, None, None,    576     ['conv2d_160[0][0]']
['conv2d_160[0][0]']
 Normalization)                    192)

 activation_155 (Activation)      (None, None, None,     0      ['batch_normalization_155[0][0]']
['batch_normalization_155[0][0]']
                                   192)

 activation_160 (Activation)      (None, None, None,     0      ['batch_normalization_160[0][0]']
['batch_normalization_160[0][0]']
                                   192)

 conv2d_156 (Conv2D)              (None, None, None,    258048   ['activation_155[0][0]']
['activation_155[0][0]']
                                   192)

 conv2d_161 (Conv2D)              (None, None, None,    258048   ['activation_160[0][0]']
['activation_160[0][0]']
                                   192)

 batch_normalization_156 (Batch   (None, None, None,    576     ['conv2d_156[0][0]']
['conv2d_156[0][0]']
 Normalization)                    192)

 batch_normalization_161 (Batch   (None, None, None,    576     ['conv2d_161[0][0]']
['conv2d_161[0][0]']
 Normalization)                    192)

 activation_156 (Activation)      (None, None, None,     0      ['batch_normalization_156[0][0]']
['batch_normalization_156[0][0]']
                                   192)

 activation_161 (Activation)      (None, None, None,     0      ['batch_normalization_161[0][0]']
['batch_normalization_161[0][0]']
                                   192)

 average_pooling2d_15 (AverageP   (None, None, None,     0      ['mixed6[0][0]']
 ooling2D)                         768)
```

```
 conv2d_154 (Conv2D)            (None, None, None,    147456     ['mixed6[0][0]']
                                192)

 conv2d_157 (Conv2D)            (None, None, None,    258048
 ['activation_156[0][0]']
                                192)

 conv2d_162 (Conv2D)            (None, None, None,    258048
 ['activation_161[0][0]']
                                192)

 conv2d_163 (Conv2D)            (None, None, None,    147456
 ['average_pooling2d_15[0][0]']
                                192)

 batch_normalization_154 (Batch  (None, None, None,    576
 ['conv2d_154[0][0]']
 Normalization)                 192)

 batch_normalization_157 (Batch  (None, None, None,    576
 ['conv2d_157[0][0]']
 Normalization)                 192)

 batch_normalization_162 (Batch  (None, None, None,    576
 ['conv2d_162[0][0]']
 Normalization)                 192)

 batch_normalization_163 (Batch  (None, None, None,    576
 ['conv2d_163[0][0]']
 Normalization)                 192)

 activation_154 (Activation)    (None, None, None,    0
 ['batch_normalization_154[0][0]']
                                192)

 activation_157 (Activation)    (None, None, None,    0
 ['batch_normalization_157[0][0]']
                                192)

 activation_162 (Activation)    (None, None, None,    0
 ['batch_normalization_162[0][0]']
                                192)

 activation_163 (Activation)    (None, None, None,    0
 ['batch_normalization_163[0][0]']
                                192)

 mixed7 (Concatenate)           (None, None, None,    0
 ['activation_154[0][0]',
                                768)

 'activation_157[0][0]',

 'activation_162[0][0]',

 'activation_163[0][0]']
```

```
conv2d_166 (Conv2D)              (None, None, None,      147456      ['mixed7[0][0]']
                                 192)

batch_normalization_166 (Batch   (None, None, None,       576
['conv2d_166[0][0]']
 Normalization)                  192)

activation_166 (Activation)      (None, None, None,         0
['batch_normalization_166[0][0]']
                                 192)

conv2d_167 (Conv2D)              (None, None, None,      258048
['activation_166[0][0]']
                                 192)

batch_normalization_167 (Batch   (None, None, None,       576
['conv2d_167[0][0]']
 Normalization)                  192)

activation_167 (Activation)      (None, None, None,         0
['batch_normalization_167[0][0]']
                                 192)

conv2d_164 (Conv2D)              (None, None, None,      147456      ['mixed7[0][0]']
                                 192)

conv2d_168 (Conv2D)              (None, None, None,      258048
['activation_167[0][0]']
                                 192)

batch_normalization_164 (Batch   (None, None, None,       576
['conv2d_164[0][0]']
 Normalization)                  192)

batch_normalization_168 (Batch   (None, None, None,       576
['conv2d_168[0][0]']
 Normalization)                  192)

activation_164 (Activation)      (None, None, None,         0
['batch_normalization_164[0][0]']
                                 192)

activation_168 (Activation)      (None, None, None,         0
['batch_normalization_168[0][0]']
                                 192)

conv2d_165 (Conv2D)              (None, None, None,      552960
['activation_164[0][0]']
                                 320)

conv2d_169 (Conv2D)              (None, None, None,      331776
['activation_168[0][0]']
                                 192)

batch_normalization_165 (Batch   (None, None, None,       960
['conv2d_165[0][0]']
 Normalization)                  320)
```

batch_normalization_169 (Batch   (None, None, None,   576   ['conv2d_169[0][0]']
Normalization)   192)

 activation_165 (Activation)   (None, None, None,   0   ['batch_normalization_165[0][0]']
                                  320)

 activation_169 (Activation)   (None, None, None,   0   ['batch_normalization_169[0][0]']
                                  192)

 max_pooling2d_7 (MaxPooling2D)   (None, None, None,   0   ['mixed7[0][0]']
                                  768)

 mixed8 (Concatenate)   (None, None, None,   0   ['activation_165[0][0]',
                                  1280)
                                         'activation_169[0][0]',

                                         'max_pooling2d_7[0][0]']

 conv2d_174 (Conv2D)   (None, None, None,   573440   ['mixed8[0][0]']
                                  448)

 batch_normalization_174 (Batch   (None, None, None,   1344   ['conv2d_174[0][0]']
Normalization)   448)

 activation_174 (Activation)   (None, None, None,   0   ['batch_normalization_174[0][0]']
                                  448)

 conv2d_171 (Conv2D)   (None, None, None,   491520   ['mixed8[0][0]']
                                  384)

 conv2d_175 (Conv2D)   (None, None, None,   1548288
['activation_174[0][0]']
                                  384)

 batch_normalization_171 (Batch   (None, None, None,   1152   ['conv2d_171[0][0]']
Normalization)   384)

 batch_normalization_175 (Batch   (None, None, None,   1152   ['conv2d_175[0][0]']
Normalization)   384)

 activation_171 (Activation)   (None, None, None,   0   ['batch_normalization_171[0][0]']
                                  384)

 activation_175 (Activation)   (None, None, None,   0   ['batch_normalization_175[0][0]']
                                  384)

conv2d_172 (Conv2D)	(None, None, None, 384)	442368	['activation_171[0][0]']
conv2d_173 (Conv2D)	(None, None, None, 384)	442368	['activation_171[0][0]']
conv2d_176 (Conv2D)	(None, None, None, 384)	442368	['activation_175[0][0]']
conv2d_177 (Conv2D)	(None, None, None, 384)	442368	['activation_175[0][0]']
average_pooling2d_16 (AverageP ooling2D)	(None, None, None, 1280)	0	['mixed8[0][0]']
conv2d_170 (Conv2D)	(None, None, None, 320)	409600	['mixed8[0][0]']
batch_normalization_172 (Batch Normalization)	(None, None, None, 384)	1152	['conv2d_172[0][0]']
batch_normalization_173 (Batch Normalization)	(None, None, None, 384)	1152	['conv2d_173[0][0]']
batch_normalization_176 (Batch Normalization)	(None, None, None, 384)	1152	['conv2d_176[0][0]']
batch_normalization_177 (Batch Normalization)	(None, None, None, 384)	1152	['conv2d_177[0][0]']
conv2d_178 (Conv2D)	(None, None, None, 192)	245760	['average_pooling2d_16[0][0]']
batch_normalization_170 (Batch Normalization)	(None, None, None, 320)	960	['conv2d_170[0][0]']
activation_172 (Activation)	(None, None, None, 384)	0	['batch_normalization_172[0][0]']
activation_173 (Activation)	(None, None, None, 384)	0	['batch_normalization_173[0][0]']
activation_176 (Activation)	(None, None, None, 384)	0	['batch_normalization_176[0][0]']

```
 activation_177 (Activation)      (None, None, None,     0
['batch_normalization_177[0][0]']
                                  384)


 batch_normalization_178 (Batch   (None, None, None,     576
['conv2d_178[0][0]']
 Normalization)                   192)


 activation_170 (Activation)      (None, None, None,     0
['batch_normalization_170[0][0]']
                                  320)


 mixed9_0 (Concatenate)           (None, None, None,     0
['activation_172[0][0]',
                                  768)

'activation_173[0][0]']


 concatenate_2 (Concatenate)      (None, None, None,     0
['activation_176[0][0]',
                                  768)

'activation_177[0][0]']


 activation_178 (Activation)      (None, None, None,     0
['batch_normalization_178[0][0]']
                                  192)


 mixed9 (Concatenate)             (None, None, None,     0
['activation_170[0][0]',
                                  2048)

'mixed9_0[0][0]',

'concatenate_2[0][0]',

'activation_178[0][0]']

 conv2d_183 (Conv2D)              (None, None, None,     917504      ['mixed9[0][0]']
                                  448)


 batch_normalization_183 (Batch   (None, None, None,     1344
['conv2d_183[0][0]']
 Normalization)                   448)


 activation_183 (Activation)      (None, None, None,     0
['batch_normalization_183[0][0]']
                                  448)


 conv2d_180 (Conv2D)              (None, None, None,     786432      ['mixed9[0][0]']
                                  384)


 conv2d_184 (Conv2D)              (None, None, None,     1548288
['activation_183[0][0]']
                                  384)


 batch_normalization_180 (Batch   (None, None, None,     1152
['conv2d_180[0][0]']
 Normalization)                   384)
```

```
 batch_normalization_184 (Batch   (None, None, None,    1152        ['conv2d_184[0][0]']
                                                                     
 Normalization)                   384)


 activation_180 (Activation)      (None, None, None,    0           ['batch_normalization_180[0][0]']
                                  384)


 activation_184 (Activation)      (None, None, None,    0           ['batch_normalization_184[0][0]']
                                  384)


 conv2d_181 (Conv2D)              (None, None, None,    442368      ['activation_180[0][0]']
                                  384)


 conv2d_182 (Conv2D)              (None, None, None,    442368      ['activation_180[0][0]']
                                  384)


 conv2d_185 (Conv2D)              (None, None, None,    442368      ['activation_184[0][0]']
                                  384)


 conv2d_186 (Conv2D)              (None, None, None,    442368      ['activation_184[0][0]']
                                  384)


 average_pooling2d_17 (AverageP   (None, None, None,    0           ['mixed9[0][0]']
 ooling2D)                        2048)


 conv2d_179 (Conv2D)              (None, None, None,    655360      ['mixed9[0][0]']
                                  320)


 batch_normalization_181 (Batch   (None, None, None,    1152        ['conv2d_181[0][0]']
                                                                     
 Normalization)                   384)


 batch_normalization_182 (Batch   (None, None, None,    1152        ['conv2d_182[0][0]']
                                                                     
 Normalization)                   384)


 batch_normalization_185 (Batch   (None, None, None,    1152        ['conv2d_185[0][0]']
                                                                     
 Normalization)                   384)


 batch_normalization_186 (Batch   (None, None, None,    1152        ['conv2d_186[0][0]']
                                                                     
 Normalization)                   384)


 conv2d_187 (Conv2D)              (None, None, None,    393216      ['average_pooling2d_17[0][0]']
                                  192)


 batch_normalization_179 (Batch   (None, None, None,    960         ['conv2d_179[0][0]']
                                                                     
```

```
 Normalization)                 320)

 activation_181 (Activation)    (None, None, None,    0
['batch_normalization_181[0][0]']
                                384)

 activation_182 (Activation)    (None, None, None,    0
['batch_normalization_182[0][0]']
                                384)

 activation_185 (Activation)    (None, None, None,    0
['batch_normalization_185[0][0]']
                                384)

 activation_186 (Activation)    (None, None, None,    0
['batch_normalization_186[0][0]']
                                384)

 batch_normalization_187 (Batch  (None, None, None,   576
['conv2d_187[0][0]']
 Normalization)                 192)

 activation_179 (Activation)    (None, None, None,    0
['batch_normalization_179[0][0]']
                                320)

 mixed9_1 (Concatenate)         (None, None, None,    0
['activation_181[0][0]',
                                768)

'activation_182[0][0]']

 concatenate_3 (Concatenate)    (None, None, None,    0
['activation_185[0][0]',
                                768)

'activation_186[0][0]']

 activation_187 (Activation)    (None, None, None,    0
['batch_normalization_187[0][0]']
                                192)

 mixed10 (Concatenate)          (None, None, None,    0
['activation_179[0][0]',
                                2048)

'mixed9_1[0][0]',

'concatenate_3[0][0]',

'activation_187[0][0]']

 decoder_stage0_upsampling (UpS  (None, None, None,    0              ['mixed10[0][0]']
 ampling2D)                     2048)

 decoder_stage0_concat (Concate  (None, None, None,    0
['decoder_stage0_upsampling[0][0]
 nate)                          2816)                                      ',
                                                                           'mixed7[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)                            544)                            ',
                                                                  'mixed2[0][0]']

 decoder_stage1a_conv (Conv2D)    (None, None, None,   626688     ['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)                             320)                                                           ',
                                                                 'activation_98[0][0]']

decoder_stage2a_conv (Conv2D)     (None, None, None,    184320  ['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)                                                           ',
                                                                 'activation_96[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,    1740
['decoder_stage4b_relu[0][0]']
                                 12)

 softmax (Activation)            (None, None, None,       0
['final_conv[0][0]']
                                 12)

==================================================================================
================
Total params: 29,934,700
Trainable params: 29,898,284
Non-trainable params: 36,416
_____
_____
None
```

Model Architecture U Net EfficientNetB7 as backbone

258441216/258434480 [==============================] - 9s 0us/step

258449408/258434480 [==============================] - 9s 0us/step

Model: "model"

_____

Layer (type)	Output Shape	Param #	Connected to
input_1 (InputLayer)	[(None, None, None, 3)]	0	[]
stem_conv (Conv2D)	(None, None, None, 64)	1728	['input_1[0][0]']
stem_bn (BatchNormalization)	(None, None, None, 64)	256	['stem_conv[0][0]']
stem_activation (Activation)	(None, None, None, 64)	0	['stem_bn[0][0]']
block1a_dwconv (DepthwiseConv2 D)	(None, None, None, 64)	576	['stem_activation[0][0]']
block1a_bn (BatchNormalization)	(None, None, None, 64)	256	['block1a_dwconv[0][0]']

```
 block1a_activation (Activation    (None, None, None,    0
['block1a_bn[0][0]']

 )                                 64)


 block1a_se_squeeze (GlobalAver    (None, 64)            0
['block1a_activation[0][0]']

 agePooling2D)


 block1a_se_reshape (Reshape)      (None, 1, 1, 64)      0
['block1a_se_squeeze[0][0]']


 block1a_se_reduce (Conv2D)        (None, 1, 1, 16)      1040
['block1a_se_reshape[0][0]']


 block1a_se_expand (Conv2D)        (None, 1, 1, 64)      1088
['block1a_se_reduce[0][0]']


 block1a_se_excite (Multiply)      (None, None, None,    0
['block1a_activation[0][0]',

                                   64)
'block1a_se_expand[0][0]']


 block1a_project_conv (Conv2D)     (None, None, None,    2048
['block1a_se_excite[0][0]']

                                   32)


 block1a_project_bn (BatchNorma    (None, None, None,    128
['block1a_project_conv[0][0]']

 lization)                         32)


 block1b_dwconv (DepthwiseConv2    (None, None, None,    288
['block1a_project_bn[0][0]']
```

```
 D)                                    32)


 block1b_bn (BatchNormalization    (None, None, None,    128    ['block1b_dwconv[0][0]']
 )                                    32)


 block1b_activation (Activation    (None, None, None,    0      ['block1b_bn[0][0]']
 )                                    32)


 block1b_se_squeeze (GlobalAver    (None, 32)            0      ['block1b_activation[0][0]']

 agePooling2D)


 block1b_se_reshape (Reshape)      (None, 1, 1, 32)      0      ['block1b_se_squeeze[0][0]']


 block1b_se_reduce (Conv2D)        (None, 1, 1, 8)       264    ['block1b_se_reshape[0][0]']


 block1b_se_expand (Conv2D)        (None, 1, 1, 32)      288    ['block1b_se_reduce[0][0]']


 block1b_se_excite (Multiply)      (None, None, None,    0      ['block1b_activation[0][0]',
                                     32)
                                            'block1b_se_expand[0][0]']


 block1b_project_conv (Conv2D)     (None, None, None,    1024   ['block1b_se_excite[0][0]']
                                     32)
```

```
block1b_project_bn (BatchNorma    (None, None, None,    128    ['block1b_project_conv[0][0]']
 lization)                         32)


 block1b_drop (FixedDropout)      (None, None, None,    0      ['block1b_project_bn[0][0]']

                                   32)


 block1b_add (Add)                (None, None, None,    0      ['block1b_drop[0][0]',

                                   32)
                                          'block1a_project_bn[0][0]']


 block1c_dwconv (DepthwiseConv2   (None, None, None,    288    ['block1b_add[0][0]']
 D)                                32)


 block1c_bn (BatchNormalization   (None, None, None,    128    ['block1c_dwconv[0][0]']
 )                                 32)


 block1c_activation (Activation   (None, None, None,    0      ['block1c_bn[0][0]']
 )                                 32)


 block1c_se_squeeze (GlobalAver   (None, 32)            0      ['block1c_activation[0][0]']
 agePooling2D)


 block1c_se_reshape (Reshape)     (None, 1, 1, 32)      0      ['block1c_se_squeeze[0][0]']
```

```
 block1c_se_reduce (Conv2D)      (None, 1, 1, 8)       264
['block1c_se_reshape[0][0]']


 block1c_se_expand (Conv2D)      (None, 1, 1, 32)      288
['block1c_se_reduce[0][0]']


 block1c_se_excite (Multiply)    (None, None, None,    0
['block1c_activation[0][0]',

                                 32)
'block1c_se_expand[0][0]']


 block1c_project_conv (Conv2D)   (None, None, None,    1024
['block1c_se_excite[0][0]']

                                 32)


 block1c_project_bn (BatchNorma  (None, None, None,    128
['block1c_project_conv[0][0]']

 lization)                       32)


 block1c_drop (FixedDropout)     (None, None, None,    0
['block1c_project_bn[0][0]']

                                 32)


 block1c_add (Add)               (None, None, None,    0
['block1c_drop[0][0]',

                                 32)
'block1b_add[0][0]']


 block1d_dwconv (DepthwiseConv2  (None, None, None,    288
['block1c_add[0][0]']

 D)                              32)


 block1d_bn (BatchNormalization  (None, None, None,    128
['block1d_dwconv[0][0]']
```

```
)                                      32)


 block1d_activation (Activation   (None, None, None,    0
['block1d_bn[0][0]']
 )                                      32)


 block1d_se_squeeze (GlobalAver   (None, 32)            0
['block1d_activation[0][0]']
 agePooling2D)


 block1d_se_reshape (Reshape)     (None, 1, 1, 32)      0
['block1d_se_squeeze[0][0]']


 block1d_se_reduce (Conv2D)       (None, 1, 1, 8)       264
['block1d_se_reshape[0][0]']


 block1d_se_expand (Conv2D)       (None, 1, 1, 32)      288
['block1d_se_reduce[0][0]']


 block1d_se_excite (Multiply)     (None, None, None,    0
['block1d_activation[0][0]',
                                        32)
'block1d_se_expand[0][0]']


 block1d_project_conv (Conv2D)    (None, None, None,    1024
['block1d_se_excite[0][0]']
                                        32)


 block1d_project_bn (BatchNorma   (None, None, None,    128
['block1d_project_conv[0][0]']
 lization)                              32)
```

```
 block1d_drop (FixedDropout)     (None, None, None,    0      ['block1d_project_bn[0][0]']

                                  32)


 block1d_add (Add)               (None, None, None,    0      ['block1d_drop[0][0]',

                                  32)
'block1c_add[0][0]']


 block2a_expand_conv (Conv2D)    (None, None, None,    6144   ['block1d_add[0][0]']

                                  192)


 block2a_expand_bn (BatchNormal  (None, None, None,    768    ['block2a_expand_conv[0][0]']
 ization)                        192)


 block2a_expand_activation (Act  (None, None, None,    0      ['block2a_expand_bn[0][0]']
 ivation)                        192)


 block2a_dwconv (DepthwiseConv2  (None, None, None,    1728   ['block2a_expand_activation[0][0]
 D)                              192)                         ']


 block2a_bn (BatchNormalization  (None, None, None,    768    ['block2a_dwconv[0][0]']
 )                               192)


 block2a_activation (Activation  (None, None, None,    0      ['block2a_bn[0][0]']
 )                               192)
```

```
block2a_se_squeeze (GlobalAver    (None, 192)            0
['block2a_activation[0][0]']

 agePooling2D)


 block2a_se_reshape (Reshape)     (None, 1, 1, 192)      0
['block2a_se_squeeze[0][0]']


 block2a_se_reduce (Conv2D)       (None, 1, 1, 8)        1544
['block2a_se_reshape[0][0]']


 block2a_se_expand (Conv2D)       (None, 1, 1, 192)      1728
['block2a_se_reduce[0][0]']


 block2a_se_excite (Multiply)     (None, None, None,     0
['block2a_activation[0][0]',

                                  192)
'block2a_se_expand[0][0]']


 block2a_project_conv (Conv2D)    (None, None, None,     9216
['block2a_se_excite[0][0]']

                                  48)


 block2a_project_bn (BatchNorma   (None, None, None,     192
['block2a_project_conv[0][0]']

 lization)                        48)


 block2b_expand_conv (Conv2D)     (None, None, None,     13824
['block2a_project_bn[0][0]']

                                  288)


 block2b_expand_bn (BatchNormal   (None, None, None,     1152
['block2b_expand_conv[0][0]']

 ization)                         288)
```

block2b_expand_activation (Act   (None, None, None,   0   ['block2b_expand_bn[0][0]']
ivation)   288)

block2b_dwconv (DepthwiseConv2   (None, None, None,   2592   ['block2b_expand_activation[0][0]
D)   288)   ']

block2b_bn (BatchNormalization   (None, None, None,   1152   ['block2b_dwconv[0][0]']
)   288)

block2b_activation (Activation   (None, None, None,   0   ['block2b_bn[0][0]']
)   288)

block2b_se_squeeze (GlobalAver   (None, 288)   0   ['block2b_activation[0][0]']
agePooling2D)

block2b_se_reshape (Reshape)   (None, 1, 1, 288)   0   ['block2b_se_squeeze[0][0]']

block2b_se_reduce (Conv2D)   (None, 1, 1, 12)   3468   ['block2b_se_reshape[0][0]']

block2b_se_expand (Conv2D)   (None, 1, 1, 288)   3744   ['block2b_se_reduce[0][0]']

block2b_se_excite (Multiply)   (None, None, None,   0   ['block2b_activation[0][0]',

```
                                            288)
'block2b_se_expand[0][0]']


 block2b_project_conv (Conv2D)   (None, None, None,    13824
['block2b_se_excite[0][0]']

                                 48)


 block2b_project_bn (BatchNorma  (None, None, None,    192
['block2b_project_conv[0][0]']

 lization)                       48)


 block2b_drop (FixedDropout)     (None, None, None,    0
['block2b_project_bn[0][0]']

                                 48)


 block2b_add (Add)               (None, None, None,    0
['block2b_drop[0][0]',

                                 48)
'block2a_project_bn[0][0]']


 block2c_expand_conv (Conv2D)    (None, None, None,    13824
['block2b_add[0][0]']

                                 288)


 block2c_expand_bn (BatchNormal  (None, None, None,    1152
['block2c_expand_conv[0][0]']

 ization)                        288)


 block2c_expand_activation (Act  (None, None, None,    0
['block2c_expand_bn[0][0]']

 ivation)                        288)
```

```
block2c_dwconv (DepthwiseConv2    (None, None, None,    2592    ['block2c_expand_activation[0][0]
D)                                288)                            ']


block2c_bn (BatchNormalization    (None, None, None,    1152    ['block2c_dwconv[0][0]']
)                                 288)


block2c_activation (Activation    (None, None, None,    0       ['block2c_bn[0][0]']
)                                 288)


block2c_se_squeeze (GlobalAver    (None, 288)           0       ['block2c_activation[0][0]']
agePooling2D)


block2c_se_reshape (Reshape)      (None, 1, 1, 288)     0       ['block2c_se_squeeze[0][0]']


block2c_se_reduce (Conv2D)        (None, 1, 1, 12)      3468    ['block2c_se_reshape[0][0]']


block2c_se_expand (Conv2D)        (None, 1, 1, 288)     3744    ['block2c_se_reduce[0][0]']


block2c_se_excite (Multiply)      (None, None, None,    0       ['block2c_activation[0][0]',
                                  288)                           'block2c_se_expand[0][0]']


block2c_project_conv (Conv2D)     (None, None, None,    13824   ['block2c_se_excite[0][0]']
                                  48)
```

```
block2c_project_bn (BatchNorma    (None, None, None,    192    ['block2c_project_conv[0][0]']

 lization)                        48)


 block2c_drop (FixedDropout)      (None, None, None,    0      ['block2c_project_bn[0][0]']

                                  48)


 block2c_add (Add)                (None, None, None,    0      ['block2c_drop[0][0]',

                                  48)
                                                               'block2b_add[0][0]']


 block2d_expand_conv (Conv2D)     (None, None, None,    13824  ['block2c_add[0][0]']

                                  288)


 block2d_expand_bn (BatchNormal   (None, None, None,    1152   ['block2d_expand_conv[0][0]']

 ization)                         288)


 block2d_expand_activation (Act   (None, None, None,    0      ['block2d_expand_bn[0][0]']

 ivation)                         288)


 block2d_dwconv (DepthwiseConv2   (None, None, None,    2592   ['block2d_expand_activation[0][0]

 D)                               288)                                                         ']


 block2d_bn (BatchNormalization   (None, None, None,    1152   ['block2d_dwconv[0][0]']

 )                                288)
```

```
 block2d_activation (Activation   (None, None, None,    0          ['block2d_bn[0][0]']

 )                                288)


 block2d_se_squeeze (GlobalAver   (None, 288)           0          ['block2d_activation[0][0]']

 agePooling2D)


 block2d_se_reshape (Reshape)     (None, 1, 1, 288)     0          ['block2d_se_squeeze[0][0]']


 block2d_se_reduce (Conv2D)       (None, 1, 1, 12)      3468       ['block2d_se_reshape[0][0]']


 block2d_se_expand (Conv2D)       (None, 1, 1, 288)     3744       ['block2d_se_reduce[0][0]']


 block2d_se_excite (Multiply)     (None, None, None,    0          ['block2d_activation[0][0]',

                                  288)                             'block2d_se_expand[0][0]']


 block2d_project_conv (Conv2D)    (None, None, None,    13824      ['block2d_se_excite[0][0]']

                                  48)


 block2d_project_bn (BatchNorma   (None, None, None,    192        ['block2d_project_conv[0][0]']

 lization)                        48)


 block2d_drop (FixedDropout)      (None, None, None,    0          ['block2d_project_bn[0][0]']
```

```
                                    48)


 block2d_add (Add)              (None, None, None,    0
['block2d_drop[0][0]',

                                    48)
'block2c_add[0][0]']


 block2e_expand_conv (Conv2D)   (None, None, None,    13824
['block2d_add[0][0]']

                                    288)


 block2e_expand_bn (BatchNormal (None, None, None,    1152
['block2e_expand_conv[0][0]']

 ization)                           288)


 block2e_expand_activation (Act (None, None, None,    0
['block2e_expand_bn[0][0]']

 ivation)                           288)


 block2e_dwconv (DepthwiseConv2 (None, None, None,    2592
['block2e_expand_activation[0][0]

 D)                                 288)                                          ']


 block2e_bn (BatchNormalization (None, None, None,    1152
['block2e_dwconv[0][0]']

 )                                  288)


 block2e_activation (Activation (None, None, None,    0
['block2e_bn[0][0]']

 )                                  288)


 block2e_se_squeeze (GlobalAver (None, 288)          0
['block2e_activation[0][0]']
```

agePooling2D)

block2e_se_reshape (Reshape)   (None, 1, 1, 288)   0
['block2e_se_squeeze[0][0]']

block2e_se_reduce (Conv2D)   (None, 1, 1, 12)   3468
['block2e_se_reshape[0][0]']

block2e_se_expand (Conv2D)   (None, 1, 1, 288)   3744
['block2e_se_reduce[0][0]']

block2e_se_excite (Multiply)   (None, None, None,   0
['block2e_activation[0][0]',

                                  288)

'block2e_se_expand[0][0]']

block2e_project_conv (Conv2D)   (None, None, None,   13824
['block2e_se_excite[0][0]']

                                  48)

block2e_project_bn (BatchNorma   (None, None, None,   192
['block2e_project_conv[0][0]']

 lization)   48)

block2e_drop (FixedDropout)   (None, None, None,   0
['block2e_project_bn[0][0]']

                                  48)

block2e_add (Add)   (None, None, None,   0
['block2e_drop[0][0]',

                                  48)

'block2d_add[0][0]']

```
 block2f_expand_conv (Conv2D)     (None, None, None,    13824
['block2e_add[0][0]']

                                  288)


 block2f_expand_bn (BatchNormal   (None, None, None,    1152
['block2f_expand_conv[0][0]']

 ization)                         288)


 block2f_expand_activation (Act   (None, None, None,    0
['block2f_expand_bn[0][0]']

 ivation)                         288)


 block2f_dwconv (DepthwiseConv2   (None, None, None,    2592
['block2f_expand_activation[0][0]

 D)                               288)                                       ']


 block2f_bn (BatchNormalization   (None, None, None,    1152
['block2f_dwconv[0][0]']

 )                                288)


 block2f_activation (Activation   (None, None, None,    0
['block2f_bn[0][0]']

 )                                288)


 block2f_se_squeeze (GlobalAver   (None, 288)           0
['block2f_activation[0][0]']

 agePooling2D)


 block2f_se_reshape (Reshape)     (None, 1, 1, 288)     0
['block2f_se_squeeze[0][0]']


 block2f_se_reduce (Conv2D)       (None, 1, 1, 12)      3468
['block2f_se_reshape[0][0]']
```

```
 block2f_se_expand (Conv2D)       (None, 1, 1, 288)      3744
['block2f_se_reduce[0][0]']


 block2f_se_excite (Multiply)     (None, None, None,      0
['block2f_activation[0][0]',

                                  288)
'block2f_se_expand[0][0]']


 block2f_project_conv (Conv2D)   (None, None, None,     13824
['block2f_se_excite[0][0]']

                                  48)


 block2f_project_bn (BatchNorma  (None, None, None,      192
['block2f_project_conv[0][0]']

 lization)                        48)


 block2f_drop (FixedDropout)     (None, None, None,      0
['block2f_project_bn[0][0]']

                                  48)


 block2f_add (Add)               (None, None, None,      0
['block2f_drop[0][0]',

                                  48)
'block2e_add[0][0]']


 block2g_expand_conv (Conv2D)    (None, None, None,     13824
['block2f_add[0][0]']

                                  288)


 block2g_expand_bn (BatchNormal  (None, None, None,     1152
['block2g_expand_conv[0][0]']

 ization)                         288)
```

```
 block2g_expand_activation (Act   (None, None, None,    0    ['block2g_expand_bn[0][0]']
 ivation)                          288)


 block2g_dwconv (DepthwiseConv2   (None, None, None,    2592 ['block2g_expand_activation[0][0]
 D)                                288)                                                    ']


 block2g_bn (BatchNormalization   (None, None, None,    1152 ['block2g_dwconv[0][0]']
 )                                 288)


 block2g_activation (Activation   (None, None, None,    0    ['block2g_bn[0][0]']
 )                                 288)


 block2g_se_squeeze (GlobalAver   (None, 288)           0    ['block2g_activation[0][0]']
 agePooling2D)


 block2g_se_reshape (Reshape)     (None, 1, 1, 288)     0    ['block2g_se_squeeze[0][0]']


 block2g_se_reduce (Conv2D)       (None, 1, 1, 12)      3468 ['block2g_se_reshape[0][0]']


 block2g_se_expand (Conv2D)       (None, 1, 1, 288)     3744 ['block2g_se_reduce[0][0]']


 block2g_se_excite (Multiply)     (None, None, None,    0    ['block2g_activation[0][0]',
```

```
                                  288)
'block2g_se_expand[0][0]']


 block2g_project_conv (Conv2D)   (None, None, None,   13824
['block2g_se_excite[0][0]']

                                  48)


 block2g_project_bn (BatchNorma  (None, None, None,   192
['block2g_project_conv[0][0]']

 lization)                        48)


 block2g_drop (FixedDropout)     (None, None, None,   0
['block2g_project_bn[0][0]']

                                  48)


 block2g_add (Add)               (None, None, None,   0
['block2g_drop[0][0]',

                                  48)
'block2f_add[0][0]']


 block3a_expand_conv (Conv2D)    (None, None, None,   13824
['block2g_add[0][0]']

                                  288)


 block3a_expand_bn (BatchNormal  (None, None, None,   1152
['block3a_expand_conv[0][0]']

 ization)                         288)


 block3a_expand_activation (Act  (None, None, None,   0
['block3a_expand_bn[0][0]']

 ivation)                         288)
```

```
block3a_dwconv (DepthwiseConv2    (None, None, None,    7200    ['block3a_expand_activation[0][0]
                                                                 ']
 D)                               288)

block3a_bn (BatchNormalization    (None, None, None,    1152    ['block3a_dwconv[0][0]']
 )                                288)

block3a_activation (Activation    (None, None, None,     0      ['block3a_bn[0][0]']
 )                                288)

block3a_se_squeeze (GlobalAver    (None, 288)            0       ['block3a_activation[0][0]']
 agePooling2D)

block3a_se_reshape (Reshape)     (None, 1, 1, 288)      0       ['block3a_se_squeeze[0][0]']

block3a_se_reduce (Conv2D)       (None, 1, 1, 12)      3468     ['block3a_se_reshape[0][0]']

block3a_se_expand (Conv2D)       (None, 1, 1, 288)     3744     ['block3a_se_reduce[0][0]']

block3a_se_excite (Multiply)     (None, None, None,     0       ['block3a_activation[0][0]',
                                 288)                            'block3a_se_expand[0][0]']

block3a_project_conv (Conv2D)    (None, None, None,    23040    ['block3a_se_excite[0][0]']
                                 80)
```

```
block3a_project_bn (BatchNorma     (None, None, None,    320
['block3a_project_conv[0][0]']

 lization)                          80)


block3b_expand_conv (Conv2D)       (None, None, None,    38400
['block3a_project_bn[0][0]']

                                   480)


block3b_expand_bn (BatchNormal     (None, None, None,    1920
['block3b_expand_conv[0][0]']

 ization)                          480)


block3b_expand_activation (Act     (None, None, None,    0
['block3b_expand_bn[0][0]']

 ivation)                          480)


block3b_dwconv (DepthwiseConv2     (None, None, None,    12000
['block3b_expand_activation[0][0]

 D)                                480)                                                 ']


block3b_bn (BatchNormalization     (None, None, None,    1920
['block3b_dwconv[0][0]']

 )                                 480)


block3b_activation (Activation     (None, None, None,    0
['block3b_bn[0][0]']

 )                                 480)


block3b_se_squeeze (GlobalAver     (None, 480)           0
['block3b_activation[0][0]']

 agePooling2D)
```

```
 block3b_se_reshape (Reshape)    (None, 1, 1, 480)     0
['block3b_se_squeeze[0][0]']


 block3b_se_reduce (Conv2D)      (None, 1, 1, 20)      9620
['block3b_se_reshape[0][0]']


 block3b_se_expand (Conv2D)      (None, 1, 1, 480)     10080
['block3b_se_reduce[0][0]']


 block3b_se_excite (Multiply)    (None, None, None,    0
['block3b_activation[0][0]',

                                 480)
'block3b_se_expand[0][0]']


 block3b_project_conv (Conv2D)   (None, None, None,    38400
['block3b_se_excite[0][0]']

                                 80)


 block3b_project_bn (BatchNorma  (None, None, None,    320
['block3b_project_conv[0][0]']

 lization)                       80)


 block3b_drop (FixedDropout)     (None, None, None,    0
['block3b_project_bn[0][0]']

                                 80)


 block3b_add (Add)               (None, None, None,    0
['block3b_drop[0][0]',

                                 80)
'block3a_project_bn[0][0]']


 block3c_expand_conv (Conv2D)    (None, None, None,    38400
['block3b_add[0][0]']
```

```
                                        480)


 block3c_expand_bn (BatchNormal    (None, None, None,    1920
['block3c_expand_conv[0][0]']

 ization)                          480)



 block3c_expand_activation (Act    (None, None, None,    0
['block3c_expand_bn[0][0]']

 ivation)                          480)



 block3c_dwconv (DepthwiseConv2    (None, None, None,    12000
['block3c_expand_activation[0][0]

 D)                                480)                                         ']



 block3c_bn (BatchNormalization    (None, None, None,    1920
['block3c_dwconv[0][0]']

 )                                 480)



 block3c_activation (Activation    (None, None, None,    0
['block3c_bn[0][0]']

 )                                 480)



 block3c_se_squeeze (GlobalAver    (None, 480)           0
['block3c_activation[0][0]']

 agePooling2D)



 block3c_se_reshape (Reshape)      (None, 1, 1, 480)     0
['block3c_se_squeeze[0][0]']



 block3c_se_reduce (Conv2D)        (None, 1, 1, 20)      9620
['block3c_se_reshape[0][0]']
```

```
 block3c_se_expand (Conv2D)      (None, 1, 1, 480)     10080
['block3c_se_reduce[0][0]']


 block3c_se_excite (Multiply)    (None, None, None,     0
['block3c_activation[0][0]',

                                 480)
'block3c_se_expand[0][0]']


 block3c_project_conv (Conv2D)   (None, None, None,     38400
['block3c_se_excite[0][0]']

                                 80)


 block3c_project_bn (BatchNorma  (None, None, None,     320
['block3c_project_conv[0][0]']

 lization)                       80)


 block3c_drop (FixedDropout)     (None, None, None,     0
['block3c_project_bn[0][0]']

                                 80)


 block3c_add (Add)               (None, None, None,     0
['block3c_drop[0][0]',

                                 80)
'block3b_add[0][0]']


 block3d_expand_conv (Conv2D)    (None, None, None,     38400
['block3c_add[0][0]']

                                 480)


 block3d_expand_bn (BatchNormal  (None, None, None,     1920
['block3d_expand_conv[0][0]']

 ization)                        480)
```

```
block3d_expand_activation (Act   (None, None, None,    0        ['block3d_expand_bn[0][0]']
 ivation)                        480)


block3d_dwconv (DepthwiseConv2   (None, None, None,    12000    ['block3d_expand_activation[0][0]
 D)                              480)                                                       ']


block3d_bn (BatchNormalization   (None, None, None,    1920     ['block3d_dwconv[0][0]']
 )                               480)


block3d_activation (Activation   (None, None, None,    0        ['block3d_bn[0][0]']
 )                               480)


block3d_se_squeeze (GlobalAver   (None, 480)           0        ['block3d_activation[0][0]']
 agePooling2D)


block3d_se_reshape (Reshape)     (None, 1, 1, 480)     0        ['block3d_se_squeeze[0][0]']


block3d_se_reduce (Conv2D)       (None, 1, 1, 20)      9620     ['block3d_se_reshape[0][0]']


block3d_se_expand (Conv2D)       (None, 1, 1, 480)     10080    ['block3d_se_reduce[0][0]']


block3d_se_excite (Multiply)     (None, None, None,    0        ['block3d_activation[0][0]',
                                 480)
                                                                'block3d_se_expand[0][0]']
```

```
 block3d_project_conv (Conv2D)   (None, None, None,    38400     ['block3d_se_excite[0][0]']

                                  80)


 block3d_project_bn (BatchNorma  (None, None, None,    320       ['block3d_project_conv[0][0]']

 lization)                       80)


 block3d_drop (FixedDropout)     (None, None, None,    0         ['block3d_project_bn[0][0]']

                                  80)


 block3d_add (Add)               (None, None, None,    0         ['block3d_drop[0][0]',

                                  80)
                                                                 'block3c_add[0][0]']


 block3e_expand_conv (Conv2D)    (None, None, None,    38400     ['block3d_add[0][0]']

                                  480)


 block3e_expand_bn (BatchNormal  (None, None, None,    1920      ['block3e_expand_conv[0][0]']

 ization)                        480)


 block3e_expand_activation (Act  (None, None, None,    0         ['block3e_expand_bn[0][0]']

 ivation)                        480)


 block3e_dwconv (DepthwiseConv2  (None, None, None,    12000     ['block3e_expand_activation[0][0]

 D)                              480)                            ']
```

```
 block3e_bn (BatchNormalization   (None, None, None,     1920
['block3e_dwconv[0][0]']

 )                                480)


 block3e_activation (Activation   (None, None, None,        0
['block3e_bn[0][0]']

 )                                480)


 block3e_se_squeeze (GlobalAver   (None, 480)               0
['block3e_activation[0][0]']

 agePooling2D)


 block3e_se_reshape (Reshape)     (None, 1, 1, 480)         0
['block3e_se_squeeze[0][0]']


 block3e_se_reduce (Conv2D)       (None, 1, 1, 20)       9620
['block3e_se_reshape[0][0]']


 block3e_se_expand (Conv2D)       (None, 1, 1, 480)     10080
['block3e_se_reduce[0][0]']


 block3e_se_excite (Multiply)     (None, None, None,        0
['block3e_activation[0][0]',

                                  480)
'block3e_se_expand[0][0]']


 block3e_project_conv (Conv2D)    (None, None, None,    38400
['block3e_se_excite[0][0]']

                                  80)


 block3e_project_bn (BatchNorma   (None, None, None,      320
['block3e_project_conv[0][0]']
```

```
 lization)                  80)


 block3e_drop (FixedDropout)   (None, None, None,   0
['block3e_project_bn[0][0]']

                               80)


 block3e_add (Add)             (None, None, None,   0
['block3e_drop[0][0]',

                               80)
'block3d_add[0][0]']


 block3f_expand_conv (Conv2D)  (None, None, None,   38400
['block3e_add[0][0]']

                               480)


 block3f_expand_bn (BatchNormal  (None, None, None,   1920
['block3f_expand_conv[0][0]']

 ization)                  480)


 block3f_expand_activation (Act  (None, None, None,   0
['block3f_expand_bn[0][0]']

 ivation)                  480)


 block3f_dwconv (DepthwiseConv2  (None, None, None,   12000
['block3f_expand_activation[0][0]

 D)                        480)                               ']


 block3f_bn (BatchNormalization  (None, None, None,   1920
['block3f_dwconv[0][0]']

 )                         480)


 block3f_activation (Activation  (None, None, None,   0
['block3f_bn[0][0]']
```

```
)                              480)


 block3f_se_squeeze (GlobalAver   (None, 480)         0
['block3f_activation[0][0]']

 agePooling2D)


 block3f_se_reshape (Reshape)    (None, 1, 1, 480)   0
['block3f_se_squeeze[0][0]']


 block3f_se_reduce (Conv2D)      (None, 1, 1, 20)    9620
['block3f_se_reshape[0][0]']


 block3f_se_expand (Conv2D)      (None, 1, 1, 480)   10080
['block3f_se_reduce[0][0]']


 block3f_se_excite (Multiply)    (None, None, None,  0
['block3f_activation[0][0]',

                                 480)
'block3f_se_expand[0][0]']


 block3f_project_conv (Conv2D)   (None, None, None,  38400
['block3f_se_excite[0][0]']

                                 80)


 block3f_project_bn (BatchNorma  (None, None, None,   320
['block3f_project_conv[0][0]']

 lization)                       80)


 block3f_drop (FixedDropout)     (None, None, None,   0
['block3f_project_bn[0][0]']

                                 80)
```

```
 block3f_add (Add)                (None, None, None,    0      ['block3f_drop[0][0]',
                                   80)
                                                              'block3e_add[0][0]']


 block3g_expand_conv (Conv2D)     (None, None, None,    38400  ['block3f_add[0][0]']
                                   480)


 block3g_expand_bn (BatchNormal   (None, None, None,    1920   ['block3g_expand_conv[0][0]']
 ization)                         480)


 block3g_expand_activation (Act   (None, None, None,    0      ['block3g_expand_bn[0][0]']
 ivation)                         480)


 block3g_dwconv (DepthwiseConv2   (None, None, None,    12000  ['block3g_expand_activation[0][0]
 D)                               480)                          ']


 block3g_bn (BatchNormalization   (None, None, None,    1920   ['block3g_dwconv[0][0]']
 )                                480)


 block3g_activation (Activation   (None, None, None,    0      ['block3g_bn[0][0]']
 )                                480)


 block3g_se_squeeze (GlobalAver   (None, 480)           0      ['block3g_activation[0][0]']
 agePooling2D)
```

```
 block3g_se_reshape (Reshape)    (None, 1, 1, 480)    0
['block3g_se_squeeze[0][0]']


 block3g_se_reduce (Conv2D)      (None, 1, 1, 20)     9620
['block3g_se_reshape[0][0]']


 block3g_se_expand (Conv2D)      (None, 1, 1, 480)    10080
['block3g_se_reduce[0][0]']


 block3g_se_excite (Multiply)    (None, None, None,   0
['block3g_activation[0][0]',

                                 480)
'block3g_se_expand[0][0]']


 block3g_project_conv (Conv2D)   (None, None, None,   38400
['block3g_se_excite[0][0]']

                                 80)


 block3g_project_bn (BatchNorma  (None, None, None,   320
['block3g_project_conv[0][0]']

 lization)                       80)


 block3g_drop (FixedDropout)     (None, None, None,   0
['block3g_project_bn[0][0]']

                                 80)


 block3g_add (Add)               (None, None, None,   0
['block3g_drop[0][0]',

                                 80)
'block3f_add[0][0]']


 block4a_expand_conv (Conv2D)    (None, None, None,   38400
['block3g_add[0][0]']

                                 480)
```

```
block4a_expand_bn (BatchNormal    (None, None, None,    1920    ['block4a_expand_conv[0][0]']
ization)                          480)


block4a_expand_activation (Act    (None, None, None,    0       ['block4a_expand_bn[0][0]']
ivation)                          480)


block4a_dwconv (DepthwiseConv2    (None, None, None,    4320    ['block4a_expand_activation[0][0]
D)                                480)                                                          ']


block4a_bn (BatchNormalization    (None, None, None,    1920    ['block4a_dwconv[0][0]']
)                                 480)


block4a_activation (Activation    (None, None, None,    0       ['block4a_bn[0][0]']
)                                 480)


block4a_se_squeeze (GlobalAver    (None, 480)           0       ['block4a_activation[0][0]']
agePooling2D)


block4a_se_reshape (Reshape)      (None, 1, 1, 480)     0       ['block4a_se_squeeze[0][0]']


block4a_se_reduce (Conv2D)        (None, 1, 1, 20)      9620    ['block4a_se_reshape[0][0]']


block4a_se_expand (Conv2D)        (None, 1, 1, 480)     10080   ['block4a_se_reduce[0][0]']
```

```
block4a_se_excite (Multiply)   (None, None, None,   0     ['block4a_activation[0][0]',
                                480)
                                                          'block4a_se_expand[0][0]']


block4a_project_conv (Conv2D)  (None, None, None,   76800 ['block4a_se_excite[0][0]']

                                160)


block4a_project_bn (BatchNorma (None, None, None,   640   ['block4a_project_conv[0][0]']

 lization)                      160)


block4b_expand_conv (Conv2D)   (None, None, None,   153600 ['block4a_project_bn[0][0]']

                                960)


block4b_expand_bn (BatchNormal (None, None, None,   3840  ['block4b_expand_conv[0][0]']

 ization)                       960)


block4b_expand_activation (Act (None, None, None,   0     ['block4b_expand_bn[0][0]']

 ivation)                       960)


block4b_dwconv (DepthwiseConv2 (None, None, None,   8640  ['block4b_expand_activation[0][0]
                                960)                                                      ']
 D)


block4b_bn (BatchNormalization (None, None, None,   3840  ['block4b_dwconv[0][0]']

 )                              960)
```

```
block4b_activation (Activation  (None, None, None,   0      ['block4b_bn[0][0]']
)                                960)


block4b_se_squeeze (GlobalAver  (None, 960)          0      ['block4b_activation[0][0]']
agePooling2D)


block4b_se_reshape (Reshape)    (None, 1, 1, 960)    0      ['block4b_se_squeeze[0][0]']


block4b_se_reduce (Conv2D)      (None, 1, 1, 40)     38440  ['block4b_se_reshape[0][0]']


block4b_se_expand (Conv2D)      (None, 1, 1, 960)    39360  ['block4b_se_reduce[0][0]']


block4b_se_excite (Multiply)    (None, None, None,   0      ['block4b_activation[0][0]',
                                960)                         'block4b_se_expand[0][0]']


block4b_project_conv (Conv2D)   (None, None, None,   153600 ['block4b_se_excite[0][0]']
                                160)


block4b_project_bn (BatchNorma  (None, None, None,   640    ['block4b_project_conv[0][0]']
lization)                       160)


block4b_drop (FixedDropout)     (None, None, None,   0      ['block4b_project_bn[0][0]']
```

```
                                 160)



 block4b_add (Add)              (None, None, None,    0          ['block4b_drop[0][0]',

                                 160)
                                                                 'block4a_project_bn[0][0]']



 block4c_expand_conv (Conv2D)   (None, None, None,    153600     ['block4b_add[0][0]']

                                 960)



 block4c_expand_bn (BatchNormal (None, None, None,    3840       ['block4c_expand_conv[0][0]']

 ization)                       960)



 block4c_expand_activation (Act (None, None, None,    0          ['block4c_expand_bn[0][0]']

 ivation)                       960)



 block4c_dwconv (DepthwiseConv2 (None, None, None,    8640       ['block4c_expand_activation[0][0]

 D)                             960)                                                            ']



 block4c_bn (BatchNormalization (None, None, None,    3840       ['block4c_dwconv[0][0]']

 )                              960)



 block4c_activation (Activation (None, None, None,    0          ['block4c_bn[0][0]']

 )                              960)



 block4c_se_squeeze (GlobalAver (None, 960)           0          ['block4c_activation[0][0]']
```

agePooling2D)

block4c_se_reshape (Reshape)   (None, 1, 1, 960)   0   ['block4c_se_squeeze[0][0]']

block4c_se_reduce (Conv2D)   (None, 1, 1, 40)   38440   ['block4c_se_reshape[0][0]']

block4c_se_expand (Conv2D)   (None, 1, 1, 960)   39360   ['block4c_se_reduce[0][0]']

block4c_se_excite (Multiply)   (None, None, None,   0   ['block4c_activation[0][0]',

                                960)

                                        'block4c_se_expand[0][0]']

block4c_project_conv (Conv2D)   (None, None, None,   153600   ['block4c_se_excite[0][0]']

                                160)

block4c_project_bn (BatchNorma (None, None, None,   640   ['block4c_project_conv[0][0]']

lization)   160)

block4c_drop (FixedDropout)   (None, None, None,   0   ['block4c_project_bn[0][0]']

                                160)

block4c_add (Add)   (None, None, None,   0   ['block4c_drop[0][0]',

                                160)

                                        'block4b_add[0][0]']

```
 block4d_expand_conv (Conv2D)    (None, None, None,   153600
['block4c_add[0][0]']

                                 960)


 block4d_expand_bn (BatchNormal  (None, None, None,   3840
['block4d_expand_conv[0][0]']

 ization)                        960)


 block4d_expand_activation (Act  (None, None, None,   0
['block4d_expand_bn[0][0]']

 ivation)                        960)


 block4d_dwconv (DepthwiseConv2  (None, None, None,   8640
['block4d_expand_activation[0][0]

 D)                              960)                                          ']


 block4d_bn (BatchNormalization  (None, None, None,   3840
['block4d_dwconv[0][0]']

 )                               960)


 block4d_activation (Activation  (None, None, None,   0
['block4d_bn[0][0]']

 )                               960)


 block4d_se_squeeze (GlobalAver  (None, 960)          0
['block4d_activation[0][0]']

 agePooling2D)


 block4d_se_reshape (Reshape)    (None, 1, 1, 960)    0
['block4d_se_squeeze[0][0]']


 block4d_se_reduce (Conv2D)      (None, 1, 1, 40)     38440
['block4d_se_reshape[0][0]']
```

```
 block4d_se_expand (Conv2D)      (None, 1, 1, 960)      39360
['block4d_se_reduce[0][0]']


 block4d_se_excite (Multiply)    (None, None, None,     0
['block4d_activation[0][0]',

                                 960)
'block4d_se_expand[0][0]']


 block4d_project_conv (Conv2D)   (None, None, None,     153600
['block4d_se_excite[0][0]']

                                 160)


 block4d_project_bn (BatchNorma  (None, None, None,     640
['block4d_project_conv[0][0]']
 lization)                       160)


 block4d_drop (FixedDropout)     (None, None, None,     0
['block4d_project_bn[0][0]']

                                 160)


 block4d_add (Add)               (None, None, None,     0
['block4d_drop[0][0]',

                                 160)
'block4c_add[0][0]']


 block4e_expand_conv (Conv2D)    (None, None, None,     153600
['block4d_add[0][0]']

                                 960)


 block4e_expand_bn (BatchNormal  (None, None, None,     3840
['block4e_expand_conv[0][0]']
 ization)                        960)
```

```
block4e_expand_activation (Act    (None, None, None,      0    ['block4e_expand_bn[0][0]']
ivation)                          960)


block4e_dwconv (DepthwiseConv2    (None, None, None,   8640    ['block4e_expand_activation[0][0]
D)                                960)                                                       ']


block4e_bn (BatchNormalization    (None, None, None,   3840    ['block4e_dwconv[0][0]']
)                                 960)


block4e_activation (Activation    (None, None, None,      0    ['block4e_bn[0][0]']
)                                 960)


block4e_se_squeeze (GlobalAver    (None, 960)             0    ['block4e_activation[0][0]']
agePooling2D)


block4e_se_reshape (Reshape)      (None, 1, 1, 960)       0    ['block4e_se_squeeze[0][0]']


block4e_se_reduce (Conv2D)        (None, 1, 1, 40)    38440    ['block4e_se_reshape[0][0]']


block4e_se_expand (Conv2D)        (None, 1, 1, 960)   39360    ['block4e_se_reduce[0][0]']


block4e_se_excite (Multiply)      (None, None, None,      0    ['block4e_activation[0][0]',
```

```
                                    960)
'block4e_se_expand[0][0]']


 block4e_project_conv (Conv2D)   (None, None, None,    153600
['block4e_se_excite[0][0]']

                                  160)


 block4e_project_bn (BatchNorma  (None, None, None,     640
['block4e_project_conv[0][0]']

 lization)                        160)


 block4e_drop (FixedDropout)     (None, None, None,    0
['block4e_project_bn[0][0]']

                                  160)


 block4e_add (Add)               (None, None, None,    0
['block4e_drop[0][0]',

                                  160)
'block4d_add[0][0]']


 block4f_expand_conv (Conv2D)    (None, None, None,    153600
['block4e_add[0][0]']

                                  960)


 block4f_expand_bn (BatchNormal  (None, None, None,    3840
['block4f_expand_conv[0][0]']

 ization)                         960)


 block4f_expand_activation (Act  (None, None, None,    0
['block4f_expand_bn[0][0]']

 ivation)                         960)
```

```
block4f_dwconv (DepthwiseConv2    (None, None, None,    8640    ['block4f_expand_activation[0][0]
D)                                960)                          ']


block4f_bn (BatchNormalization    (None, None, None,    3840    ['block4f_dwconv[0][0]']
)                                 960)


block4f_activation (Activation    (None, None, None,    0       ['block4f_bn[0][0]']
)                                 960)


block4f_se_squeeze (GlobalAver    (None, 960)           0       ['block4f_activation[0][0]']
agePooling2D)


block4f_se_reshape (Reshape)      (None, 1, 1, 960)     0       ['block4f_se_squeeze[0][0]']


block4f_se_reduce (Conv2D)        (None, 1, 1, 40)      38440   ['block4f_se_reshape[0][0]']


block4f_se_expand (Conv2D)        (None, 1, 1, 960)     39360   ['block4f_se_reduce[0][0]']


block4f_se_excite (Multiply)      (None, None, None,    0       ['block4f_activation[0][0]',
                                  960)                          'block4f_se_expand[0][0]']


block4f_project_conv (Conv2D)     (None, None, None,    153600  ['block4f_se_excite[0][0]']
                                  160)
```

```
 block4f_project_bn (BatchNorma   (None, None, None,    640    ['block4f_project_conv[0][0]']
 lization)                        160)


 block4f_drop (FixedDropout)      (None, None, None,    0      ['block4f_project_bn[0][0]']

                                  160)


 block4f_add (Add)                (None, None, None,    0      ['block4f_drop[0][0]',

                                  160)
                                         'block4e_add[0][0]']


 block4g_expand_conv (Conv2D)     (None, None, None,    153600 ['block4f_add[0][0]']

                                  960)


 block4g_expand_bn (BatchNormal   (None, None, None,    3840   ['block4g_expand_conv[0][0]']
 ization)                         960)


 block4g_expand_activation (Act   (None, None, None,    0      ['block4g_expand_bn[0][0]']
 ivation)                         960)


 block4g_dwconv (DepthwiseConv2   (None, None, None,    8640   ['block4g_expand_activation[0][0]
 D)                               960)                                                         ']


 block4g_bn (BatchNormalization   (None, None, None,    3840   ['block4g_dwconv[0][0]']
 )                                960)
```

```
block4g_activation (Activation   (None, None, None,    0      ['block4g_bn[0][0]']
                                   960)
)

block4g_se_squeeze (GlobalAver   (None, 960)           0      ['block4g_activation[0][0]']
agePooling2D)

block4g_se_reshape (Reshape)     (None, 1, 1, 960)     0      ['block4g_se_squeeze[0][0]']

block4g_se_reduce (Conv2D)       (None, 1, 1, 40)      38440  ['block4g_se_reshape[0][0]']

block4g_se_expand (Conv2D)       (None, 1, 1, 960)     39360  ['block4g_se_reduce[0][0]']

block4g_se_excite (Multiply)     (None, None, None,    0      ['block4g_activation[0][0]',
                                   960)                        'block4g_se_expand[0][0]']

block4g_project_conv (Conv2D)    (None, None, None,    153600 ['block4g_se_excite[0][0]']
                                   160)

block4g_project_bn (BatchNorma   (None, None, None,    640    ['block4g_project_conv[0][0]']
lization)                         160)

block4g_drop (FixedDropout)      (None, None, None,    0      ['block4g_project_bn[0][0]']
```

```
                                      160)


 block4g_add (Add)              (None, None, None,    0      ['block4g_drop[0][0]',
                                 160)
                                                             'block4f_add[0][0]']


 block4h_expand_conv (Conv2D)   (None, None, None,    153600 ['block4g_add[0][0]']
                                 960)


 block4h_expand_bn (BatchNormal (None, None, None,    3840   ['block4h_expand_conv[0][0]']
 ization)                        960)


 block4h_expand_activation (Act (None, None, None,    0      ['block4h_expand_bn[0][0]']
 ivation)                        960)


 block4h_dwconv (DepthwiseConv2 (None, None, None,    8640   ['block4h_expand_activation[0][0]
 D)                              960)                                                        ']


 block4h_bn (BatchNormalization (None, None, None,    3840   ['block4h_dwconv[0][0]']
 )                               960)


 block4h_activation (Activation (None, None, None,    0      ['block4h_bn[0][0]']
 )                               960)


 block4h_se_squeeze (GlobalAver (None, 960)           0      ['block4h_activation[0][0]']
```

```
 agePooling2D)


 block4h_se_reshape (Reshape)    (None, 1, 1, 960)    0
['block4h_se_squeeze[0][0]']


 block4h_se_reduce (Conv2D)      (None, 1, 1, 40)     38440
['block4h_se_reshape[0][0]']


 block4h_se_expand (Conv2D)      (None, 1, 1, 960)    39360
['block4h_se_reduce[0][0]']


 block4h_se_excite (Multiply)    (None, None, None,   0
['block4h_activation[0][0]',

                                 960)
'block4h_se_expand[0][0]']


 block4h_project_conv (Conv2D)   (None, None, None,   153600
['block4h_se_excite[0][0]']

                                 160)


 block4h_project_bn (BatchNorma  (None, None, None,    640
['block4h_project_conv[0][0]']

 lization)                       160)


 block4h_drop (FixedDropout)     (None, None, None,   0
['block4h_project_bn[0][0]']

                                 160)


 block4h_add (Add)               (None, None, None,   0
['block4h_drop[0][0]',

                                 160)
'block4g_add[0][0]']
```

```
 block4i_expand_conv (Conv2D)    (None, None, None,    153600    ['block4h_add[0][0]']
                                 960)


 block4i_expand_bn (BatchNormal  (None, None, None,    3840      ['block4i_expand_conv[0][0]']
 ization)                        960)


 block4i_expand_activation (Act  (None, None, None,    0         ['block4i_expand_bn[0][0]']
 ivation)                        960)


 block4i_dwconv (DepthwiseConv2  (None, None, None,    8640      ['block4i_expand_activation[0][0]
 D)                              960)                                                           ']


 block4i_bn (BatchNormalization  (None, None, None,    3840      ['block4i_dwconv[0][0]']
 )                               960)


 block4i_activation (Activation  (None, None, None,    0         ['block4i_bn[0][0]']
 )                               960)


 block4i_se_squeeze (GlobalAver  (None, 960)           0         ['block4i_activation[0][0]']
 agePooling2D)


 block4i_se_reshape (Reshape)    (None, 1, 1, 960)     0         ['block4i_se_squeeze[0][0]']


 block4i_se_reduce (Conv2D)      (None, 1, 1, 40)      38440     ['block4i_se_reshape[0][0]']
```

```
 block4i_se_expand (Conv2D)      (None, 1, 1, 960)     39360    ['block4i_se_reduce[0][0]']


 block4i_se_excite (Multiply)    (None, None, None,    0        ['block4i_activation[0][0]',

                                 960)
                                                                'block4i_se_expand[0][0]']


 block4i_project_conv (Conv2D)   (None, None, None,    153600   ['block4i_se_excite[0][0]']

                                 160)


 block4i_project_bn (BatchNorma  (None, None, None,    640      ['block4i_project_conv[0][0]']

 lization)                       160)


 block4i_drop (FixedDropout)     (None, None, None,    0        ['block4i_project_bn[0][0]']

                                 160)


 block4i_add (Add)               (None, None, None,    0        ['block4i_drop[0][0]',

                                 160)
                                                                'block4h_add[0][0]']


 block4j_expand_conv (Conv2D)    (None, None, None,    153600   ['block4i_add[0][0]']

                                 960)


 block4j_expand_bn (BatchNormal  (None, None, None,    3840     ['block4j_expand_conv[0][0]']

 ization)                        960)
```

```
block4j_expand_activation (Act    (None, None, None,      0    ['block4j_expand_bn[0][0]']
ivation)                          960)


block4j_dwconv (DepthwiseConv2    (None, None, None,    8640    ['block4j_expand_activation[0][0]
D)                                960)                                                        ']


block4j_bn (BatchNormalization    (None, None, None,    3840    ['block4j_dwconv[0][0]']
)                                 960)


block4j_activation (Activation    (None, None, None,      0    ['block4j_bn[0][0]']
)                                 960)


block4j_se_squeeze (GlobalAver    (None, 960)             0    ['block4j_activation[0][0]']
agePooling2D)


block4j_se_reshape (Reshape)      (None, 1, 1, 960)       0    ['block4j_se_squeeze[0][0]']


block4j_se_reduce (Conv2D)        (None, 1, 1, 40)     38440    ['block4j_se_reshape[0][0]']


block4j_se_expand (Conv2D)        (None, 1, 1, 960)    39360    ['block4j_se_reduce[0][0]']


block4j_se_excite (Multiply)      (None, None, None,      0    ['block4j_activation[0][0]',
```

960)

'block4j_se_expand[0][0]']

 block4j_project_conv (Conv2D)   (None, None, None,   153600
['block4j_se_excite[0][0]']

                                 160)

 block4j_project_bn (BatchNorma   (None, None, None,   640
['block4j_project_conv[0][0]']

 lization)   160)

 block4j_drop (FixedDropout)   (None, None, None,   0
['block4j_project_bn[0][0]']

                                 160)

 block4j_add (Add)   (None, None, None,   0
['block4j_drop[0][0]',

                                 160)

'block4i_add[0][0]']

 block5a_expand_conv (Conv2D)   (None, None, None,   153600
['block4j_add[0][0]']

                                 960)

 block5a_expand_bn (BatchNormal   (None, None, None,   3840
['block5a_expand_conv[0][0]']

 ization)   960)

 block5a_expand_activation (Act   (None, None, None,   0
['block5a_expand_bn[0][0]']

 ivation)   960)

block5a_dwconv (DepthwiseConv2   (None, None, None,   24000   ['block5a_expand_activation[0][0]
D)   960)   ']

block5a_bn (BatchNormalization   (None, None, None,   3840   ['block5a_dwconv[0][0]']
)   960)

block5a_activation (Activation   (None, None, None,   0   ['block5a_bn[0][0]']
)   960)

block5a_se_squeeze (GlobalAver   (None, 960)   0   ['block5a_activation[0][0]']
agePooling2D)

block5a_se_reshape (Reshape)   (None, 1, 1, 960)   0   ['block5a_se_squeeze[0][0]']

block5a_se_reduce (Conv2D)   (None, 1, 1, 40)   38440   ['block5a_se_reshape[0][0]']

block5a_se_expand (Conv2D)   (None, 1, 1, 960)   39360   ['block5a_se_reduce[0][0]']

block5a_se_excite (Multiply)   (None, None, None,   0   ['block5a_activation[0][0]',
                                  960)   'block5a_se_expand[0][0]']

block5a_project_conv (Conv2D)   (None, None, None,   215040   ['block5a_se_excite[0][0]']
                                  224)

block5a_project_bn (BatchNorma   (None, None, None,   896   ['block5a_project_conv[0][0]']
lization)   224)

block5b_expand_conv (Conv2D)   (None, None, None,   301056   ['block5a_project_bn[0][0]']

                                 1344)

block5b_expand_bn (BatchNormal   (None, None, None,   5376   ['block5b_expand_conv[0][0]']
ization)   1344)

block5b_expand_activation (Act   (None, None, None,   0   ['block5b_expand_bn[0][0]']
ivation)   1344)

block5b_dwconv (DepthwiseConv2   (None, None, None,   33600   ['block5b_expand_activation[0][0]
D)   1344)   ']

block5b_bn (BatchNormalization   (None, None, None,   5376   ['block5b_dwconv[0][0]']
)   1344)

block5b_activation (Activation   (None, None, None,   0   ['block5b_bn[0][0]']
)   1344)

block5b_se_squeeze (GlobalAver   (None, 1344)   0   ['block5b_activation[0][0]']
agePooling2D)

```
block5b_se_reshape (Reshape)    (None, 1, 1, 1344)   0
['block5b_se_squeeze[0][0]']


block5b_se_reduce (Conv2D)      (None, 1, 1, 56)     75320
['block5b_se_reshape[0][0]']


block5b_se_expand (Conv2D)      (None, 1, 1, 1344)   76608
['block5b_se_reduce[0][0]']


block5b_se_excite (Multiply)    (None, None, None,   0
['block5b_activation[0][0]',

                                1344)
'block5b_se_expand[0][0]']


block5b_project_conv (Conv2D)   (None, None, None,   301056
['block5b_se_excite[0][0]']

                                224)


block5b_project_bn (BatchNorma  (None, None, None,   896
['block5b_project_conv[0][0]']

 lization)                      224)


block5b_drop (FixedDropout)     (None, None, None,   0
['block5b_project_bn[0][0]']

                                224)


block5b_add (Add)               (None, None, None,   0
['block5b_drop[0][0]',

                                224)
'block5a_project_bn[0][0]']


block5c_expand_conv (Conv2D)    (None, None, None,   301056
['block5b_add[0][0]']
```

1344)

 block5c_expand_bn (BatchNormal   (None, None, None,   5376   ['block5c_expand_conv[0][0]']
 ization)   1344)

 block5c_expand_activation (Act   (None, None, None,   0   ['block5c_expand_bn[0][0]']
 ivation)   1344)

 block5c_dwconv (DepthwiseConv2   (None, None, None,   33600 ['block5c_expand_activation[0][0]
 D)   1344)   ']

 block5c_bn (BatchNormalization   (None, None, None,   5376   ['block5c_dwconv[0][0]']
)   1344)

 block5c_activation (Activation   (None, None, None,   0   ['block5c_bn[0][0]']
)   1344)

 block5c_se_squeeze (GlobalAver   (None, 1344)   0   ['block5c_activation[0][0]']
 agePooling2D)

 block5c_se_reshape (Reshape)   (None, 1, 1, 1344)   0   ['block5c_se_squeeze[0][0]']

 block5c_se_reduce (Conv2D)   (None, 1, 1, 56)   75320 ['block5c_se_reshape[0][0]']

```
 block5c_se_expand (Conv2D)      (None, 1, 1, 1344)   76608
['block5c_se_reduce[0][0]']


 block5c_se_excite (Multiply)    (None, None, None,    0
['block5c_activation[0][0]',

                                 1344)
'block5c_se_expand[0][0]']


 block5c_project_conv (Conv2D)   (None, None, None,    301056
['block5c_se_excite[0][0]']

                                 224)


 block5c_project_bn (BatchNorma  (None, None, None,    896
['block5c_project_conv[0][0]']

 lization)                       224)


 block5c_drop (FixedDropout)     (None, None, None,    0
['block5c_project_bn[0][0]']

                                 224)


 block5c_add (Add)               (None, None, None,    0
['block5c_drop[0][0]',

                                 224)
'block5b_add[0][0]']


 block5d_expand_conv (Conv2D)    (None, None, None,    301056
['block5c_add[0][0]']

                                 1344)


 block5d_expand_bn (BatchNormal  (None, None, None,    5376
['block5d_expand_conv[0][0]']

 ization)                        1344)
```

```
block5d_expand_activation (Act     (None, None, None,    0        ['block5d_expand_bn[0][0]']
ivation)                            1344)


block5d_dwconv (DepthwiseConv2     (None, None, None,    33600    ['block5d_expand_activation[0][0]
D)                                  1344)                                                        ']


block5d_bn (BatchNormalization     (None, None, None,    5376     ['block5d_dwconv[0][0]']
)                                   1344)


block5d_activation (Activation     (None, None, None,    0        ['block5d_bn[0][0]']
)                                   1344)


block5d_se_squeeze (GlobalAver     (None, 1344)          0        ['block5d_activation[0][0]']
agePooling2D)


block5d_se_reshape (Reshape)       (None, 1, 1, 1344)    0        ['block5d_se_squeeze[0][0]']


block5d_se_reduce (Conv2D)         (None, 1, 1, 56)      75320    ['block5d_se_reshape[0][0]']


block5d_se_expand (Conv2D)         (None, 1, 1, 1344)    76608    ['block5d_se_reduce[0][0]']


block5d_se_excite (Multiply)       (None, None, None,    0        ['block5d_activation[0][0]',
                                    1344)
                                                                  'block5d_se_expand[0][0]']
```

```
 block5d_project_conv (Conv2D)    (None, None, None,    301056    ['block5d_se_excite[0][0]']

                                  224)


 block5d_project_bn (BatchNorma   (None, None, None,    896       ['block5d_project_conv[0][0]']

 lization)                        224)


 block5d_drop (FixedDropout)      (None, None, None,    0         ['block5d_project_bn[0][0]']

                                  224)


 block5d_add (Add)                (None, None, None,    0         ['block5d_drop[0][0]',

                                  224)
                                                                  'block5c_add[0][0]']


 block5e_expand_conv (Conv2D)     (None, None, None,    301056    ['block5d_add[0][0]']

                                  1344)


 block5e_expand_bn (BatchNormal   (None, None, None,    5376      ['block5e_expand_conv[0][0]']

 ization)                         1344)


 block5e_expand_activation (Act   (None, None, None,    0         ['block5e_expand_bn[0][0]']

 ivation)                         1344)


 block5e_dwconv (DepthwiseConv2   (None, None, None,    33600     ['block5e_expand_activation[0][0]

 D)                               1344)                           ']
```

block5e_bn (BatchNormalization   (None, None, None,   5376
['block5e_dwconv[0][0]']

)   1344)

block5e_activation (Activation   (None, None, None,   0
['block5e_bn[0][0]']

)   1344)

block5e_se_squeeze (GlobalAver   (None, 1344)   0
['block5e_activation[0][0]']

agePooling2D)

block5e_se_reshape (Reshape)   (None, 1, 1, 1344)   0
['block5e_se_squeeze[0][0]']

block5e_se_reduce (Conv2D)   (None, 1, 1, 56)   75320
['block5e_se_reshape[0][0]']

block5e_se_expand (Conv2D)   (None, 1, 1, 1344)   76608
['block5e_se_reduce[0][0]']

block5e_se_excite (Multiply)   (None, None, None,   0
['block5e_activation[0][0]',

                                     1344)
'block5e_se_expand[0][0]']

block5e_project_conv (Conv2D)   (None, None, None,   301056
['block5e_se_excite[0][0]']

                                     224)

block5e_project_bn (BatchNorma   (None, None, None,   896
['block5e_project_conv[0][0]']

```
 lization)                        224)


 block5e_drop (FixedDropout)      (None, None, None,    0
['block5e_project_bn[0][0]']

                                  224)


 block5e_add (Add)                (None, None, None,    0
['block5e_drop[0][0]',

                                  224)
'block5d_add[0][0]']


 block5f_expand_conv (Conv2D)     (None, None, None,    301056
['block5e_add[0][0]']

                                  1344)


 block5f_expand_bn (BatchNormal   (None, None, None,    5376
['block5f_expand_conv[0][0]']

 ization)                         1344)


 block5f_expand_activation (Act   (None, None, None,    0
['block5f_expand_bn[0][0]']

 ivation)                         1344)


 block5f_dwconv (DepthwiseConv2   (None, None, None,    33600
['block5f_expand_activation[0][0]

 D)                               1344)                                   ']


 block5f_bn (BatchNormalization   (None, None, None,    5376
['block5f_dwconv[0][0]']

 )                                1344)


 block5f_activation (Activation   (None, None, None,    0
['block5f_bn[0][0]']
```

```
)                                    1344)


 block5f_se_squeeze (GlobalAver   (None, 1344)         0
['block5f_activation[0][0]']

 agePooling2D)


 block5f_se_reshape (Reshape)     (None, 1, 1, 1344)   0
['block5f_se_squeeze[0][0]']


 block5f_se_reduce (Conv2D)       (None, 1, 1, 56)     75320
['block5f_se_reshape[0][0]']


 block5f_se_expand (Conv2D)       (None, 1, 1, 1344)   76608
['block5f_se_reduce[0][0]']


 block5f_se_excite (Multiply)     (None, None, None,   0
['block5f_activation[0][0]',

                                  1344)
'block5f_se_expand[0][0]']


 block5f_project_conv (Conv2D)    (None, None, None,   301056
['block5f_se_excite[0][0]']

                                  224)


 block5f_project_bn (BatchNorma   (None, None, None,   896
['block5f_project_conv[0][0]']

 lization)                        224)


 block5f_drop (FixedDropout)      (None, None, None,   0
['block5f_project_bn[0][0]']

                                  224)
```

```
 block5f_add (Add)                (None, None, None,    0      ['block5f_drop[0][0]',
                                   224)
                                                               'block5e_add[0][0]']


 block5g_expand_conv (Conv2D)     (None, None, None,    301056 ['block5f_add[0][0]']
                                   1344)


 block5g_expand_bn (BatchNormal   (None, None, None,    5376   ['block5g_expand_conv[0][0]']
                                   1344)
 ization)


 block5g_expand_activation (Act   (None, None, None,    0      ['block5g_expand_bn[0][0]']
                                   1344)
 ivation)


 block5g_dwconv (DepthwiseConv2   (None, None, None,    33600  ['block5g_expand_activation[0][0]
                                   1344)                                                      ']
 D)


 block5g_bn (BatchNormalization   (None, None, None,    5376   ['block5g_dwconv[0][0]']
                                   1344)
 )


 block5g_activation (Activation   (None, None, None,    0      ['block5g_bn[0][0]']
                                   1344)
 )


 block5g_se_squeeze (GlobalAver   (None, 1344)          0      ['block5g_activation[0][0]']
 agePooling2D)
```

```
 block5g_se_reshape (Reshape)    (None, 1, 1, 1344)    0
['block5g_se_squeeze[0][0]']


 block5g_se_reduce (Conv2D)      (None, 1, 1, 56)      75320
['block5g_se_reshape[0][0]']


 block5g_se_expand (Conv2D)      (None, 1, 1, 1344)    76608
['block5g_se_reduce[0][0]']


 block5g_se_excite (Multiply)    (None, None, None,    0
['block5g_activation[0][0]',

                                 1344)
'block5g_se_expand[0][0]']


 block5g_project_conv (Conv2D)   (None, None, None,    301056
['block5g_se_excite[0][0]']

                                 224)


 block5g_project_bn (BatchNorma  (None, None, None,    896
['block5g_project_conv[0][0]']
 lization)                       224)


 block5g_drop (FixedDropout)     (None, None, None,    0
['block5g_project_bn[0][0]']

                                 224)


 block5g_add (Add)               (None, None, None,    0
['block5g_drop[0][0]',

                                 224)
'block5f_add[0][0]']


 block5h_expand_conv (Conv2D)    (None, None, None,    301056
['block5g_add[0][0]']

                                 1344)
```

```
block5h_expand_bn (BatchNormal    (None, None, None,    5376    ['block5h_expand_conv[0][0]']

 ization)                         1344)


block5h_expand_activation (Act    (None, None, None,    0       ['block5h_expand_bn[0][0]']

 ivation)                         1344)


block5h_dwconv (DepthwiseConv2    (None, None, None,    33600   ['block5h_expand_activation[0][0]

 D)                               1344)                                                 ']


block5h_bn (BatchNormalization    (None, None, None,    5376    ['block5h_dwconv[0][0]']

 )                                1344)


block5h_activation (Activation    (None, None, None,    0       ['block5h_bn[0][0]']

 )                                1344)


block5h_se_squeeze (GlobalAver    (None, 1344)          0       ['block5h_activation[0][0]']

 agePooling2D)


block5h_se_reshape (Reshape)      (None, 1, 1, 1344)    0       ['block5h_se_squeeze[0][0]']


block5h_se_reduce (Conv2D)        (None, 1, 1, 56)      75320   ['block5h_se_reshape[0][0]']


block5h_se_expand (Conv2D)        (None, 1, 1, 1344)    76608   ['block5h_se_reduce[0][0]']
```

```
 block5h_se_excite (Multiply)    (None, None, None,    0      ['block5h_activation[0][0]',

                                 1344)
'block5h_se_expand[0][0]']


 block5h_project_conv (Conv2D)   (None, None, None,    301056  ['block5h_se_excite[0][0]']

                                 224)


 block5h_project_bn (BatchNorma  (None, None, None,    896     ['block5h_project_conv[0][0]']

 lization)                       224)


 block5h_drop (FixedDropout)     (None, None, None,    0       ['block5h_project_bn[0][0]']

                                 224)


 block5h_add (Add)               (None, None, None,    0       ['block5h_drop[0][0]',

                                 224)
'block5g_add[0][0]']


 block5i_expand_conv (Conv2D)    (None, None, None,    301056  ['block5h_add[0][0]']

                                 1344)


 block5i_expand_bn (BatchNormal  (None, None, None,    5376    ['block5i_expand_conv[0][0]']

 ization)                        1344)


 block5i_expand_activation (Act  (None, None, None,    0       ['block5i_expand_bn[0][0]']
```

```
 ivation)                          1344)


 block5i_dwconv (DepthwiseConv2   (None, None, None,    33600
['block5i_expand_activation[0][0]
 D)                               1344)                                          ']


 block5i_bn (BatchNormalization   (None, None, None,     5376
['block5i_dwconv[0][0]']
 )                                1344)


 block5i_activation (Activation   (None, None, None,     0
['block5i_bn[0][0]']
 )                                1344)


 block5i_se_squeeze (GlobalAver   (None, 1344)           0
['block5i_activation[0][0]']
 agePooling2D)


 block5i_se_reshape (Reshape)     (None, 1, 1, 1344)    0
['block5i_se_squeeze[0][0]']


 block5i_se_reduce (Conv2D)       (None, 1, 1, 56)      75320
['block5i_se_reshape[0][0]']


 block5i_se_expand (Conv2D)       (None, 1, 1, 1344)    76608
['block5i_se_reduce[0][0]']


 block5i_se_excite (Multiply)     (None, None, None,     0
['block5i_activation[0][0]',
                                  1344)
'block5i_se_expand[0][0]']
```

```
 block5i_project_conv (Conv2D)    (None, None, None,   301056   ['block5i_se_excite[0][0]']

                                 224)


 block5i_project_bn (BatchNorma  (None, None, None,    896      ['block5i_project_conv[0][0]']

 lization)                       224)


 block5i_drop (FixedDropout)     (None, None, None,    0        ['block5i_project_bn[0][0]']

                                 224)


 block5i_add (Add)               (None, None, None,    0        ['block5i_drop[0][0]',

                                 224)
                                                                'block5h_add[0][0]']


 block5j_expand_conv (Conv2D)    (None, None, None,   301056   ['block5i_add[0][0]']

                                 1344)


 block5j_expand_bn (BatchNormal  (None, None, None,    5376     ['block5j_expand_conv[0][0]']

 ization)                        1344)


 block5j_expand_activation (Act  (None, None, None,    0        ['block5j_expand_bn[0][0]']

 ivation)                        1344)


 block5j_dwconv (DepthwiseConv2  (None, None, None,   33600    ['block5j_expand_activation[0][0]

 D)                              1344)                          ']
```

```
block5j_bn (BatchNormalization  (None, None, None,   5376
['block5j_dwconv[0][0]']
)                               1344)


block5j_activation (Activation  (None, None, None,   0
['block5j_bn[0][0]']
)                               1344)


block5j_se_squeeze (GlobalAver  (None, 1344)         0
['block5j_activation[0][0]']

agePooling2D)


block5j_se_reshape (Reshape)    (None, 1, 1, 1344)   0
['block5j_se_squeeze[0][0]']


block5j_se_reduce (Conv2D)      (None, 1, 1, 56)     75320
['block5j_se_reshape[0][0]']


block5j_se_expand (Conv2D)      (None, 1, 1, 1344)   76608
['block5j_se_reduce[0][0]']


block5j_se_excite (Multiply)    (None, None, None,   0
['block5j_activation[0][0]',

                                1344)
'block5j_se_expand[0][0]']


block5j_project_conv (Conv2D)   (None, None, None,   301056
['block5j_se_excite[0][0]']

                                224)


block5j_project_bn (BatchNorma  (None, None, None,   896
['block5j_project_conv[0][0]']

lization)                       224)
```

```
 block5j_drop (FixedDropout)     (None, None, None,    0
['block5j_project_bn[0][0]']

                                 224)



 block5j_add (Add)               (None, None, None,    0
['block5j_drop[0][0]',

                                 224)
'block5i_add[0][0]']



 block6a_expand_conv (Conv2D)    (None, None, None,    301056
['block5j_add[0][0]']

                                 1344)



 block6a_expand_bn (BatchNormal  (None, None, None,    5376
['block6a_expand_conv[0][0]']

 ization)                        1344)



 block6a_expand_activation (Act  (None, None, None,    0
['block6a_expand_bn[0][0]']

 ivation)                        1344)



 block6a_dwconv (DepthwiseConv2  (None, None, None,    33600
['block6a_expand_activation[0][0]

 D)                              1344)                                        ']



 block6a_bn (BatchNormalization  (None, None, None,    5376
['block6a_dwconv[0][0]']

 )                               1344)



 block6a_activation (Activation  (None, None, None,    0
['block6a_bn[0][0]']

 )                               1344)
```

```
block6a_se_squeeze (GlobalAver   (None, 1344)          0
['block6a_activation[0][0]']

 agePooling2D)


block6a_se_reshape (Reshape)     (None, 1, 1, 1344)    0
['block6a_se_squeeze[0][0]']


block6a_se_reduce (Conv2D)       (None, 1, 1, 56)      75320
['block6a_se_reshape[0][0]']


block6a_se_expand (Conv2D)       (None, 1, 1, 1344)    76608
['block6a_se_reduce[0][0]']


block6a_se_excite (Multiply)     (None, None, None,    0
['block6a_activation[0][0]',

                                  1344)
'block6a_se_expand[0][0]']


block6a_project_conv (Conv2D)    (None, None, None,    516096
['block6a_se_excite[0][0]']

                                  384)


block6a_project_bn (BatchNorma   (None, None, None,    1536
['block6a_project_conv[0][0]']

 lization)                        384)


block6b_expand_conv (Conv2D)     (None, None, None,    884736
['block6a_project_bn[0][0]']

                                  2304)


block6b_expand_bn (BatchNormal   (None, None, None,    9216
['block6b_expand_conv[0][0]']
```

```
ization)                        2304)


block6b_expand_activation (Act   (None, None, None,   0
['block6b_expand_bn[0][0]']
ivation)                         2304)


block6b_dwconv (DepthwiseConv2   (None, None, None,   57600
['block6b_expand_activation[0][0]
D)                               2304)                                          ']


block6b_bn (BatchNormalization   (None, None, None,   9216
['block6b_dwconv[0][0]']
)                                2304)


block6b_activation (Activation   (None, None, None,   0
['block6b_bn[0][0]']
)                                2304)


block6b_se_squeeze (GlobalAver   (None, 2304)         0
['block6b_activation[0][0]']
agePooling2D)


block6b_se_reshape (Reshape)     (None, 1, 1, 2304)   0
['block6b_se_squeeze[0][0]']


block6b_se_reduce (Conv2D)       (None, 1, 1, 96)     221280
['block6b_se_reshape[0][0]']


block6b_se_expand (Conv2D)       (None, 1, 1, 2304)   223488
['block6b_se_reduce[0][0]']


block6b_se_excite (Multiply)     (None, None, None,   0
['block6b_activation[0][0]',
```

```
                                    2304)
'block6b_se_expand[0][0]']


 block6b_project_conv (Conv2D)   (None, None, None,    884736
['block6b_se_excite[0][0]']

                                 384)


 block6b_project_bn (BatchNorma  (None, None, None,    1536
['block6b_project_conv[0][0]']

 lization)                       384)


 block6b_drop (FixedDropout)     (None, None, None,    0
['block6b_project_bn[0][0]']

                                 384)


 block6b_add (Add)               (None, None, None,    0
['block6b_drop[0][0]',

                                 384)
'block6a_project_bn[0][0]']


 block6c_expand_conv (Conv2D)    (None, None, None,    884736
['block6b_add[0][0]']

                                 2304)


 block6c_expand_bn (BatchNormal  (None, None, None,    9216
['block6c_expand_conv[0][0]']

 ization)                        2304)


 block6c_expand_activation (Act  (None, None, None,    0
['block6c_expand_bn[0][0]']

 ivation)                        2304)
```

```
block6c_dwconv (DepthwiseConv2    (None, None, None,     57600   ['block6c_expand_activation[0][0]
D)                                2304)                                                          ']


block6c_bn (BatchNormalization    (None, None, None,     9216    ['block6c_dwconv[0][0]']
)                                 2304)


block6c_activation (Activation    (None, None, None,     0       ['block6c_bn[0][0]']
)                                 2304)


block6c_se_squeeze (GlobalAver    (None, 2304)           0       ['block6c_activation[0][0]']
agePooling2D)


block6c_se_reshape (Reshape)      (None, 1, 1, 2304)     0       ['block6c_se_squeeze[0][0]']


block6c_se_reduce (Conv2D)        (None, 1, 1, 96)       221280  ['block6c_se_reshape[0][0]']


block6c_se_expand (Conv2D)        (None, 1, 1, 2304)     223488  ['block6c_se_reduce[0][0]']


block6c_se_excite (Multiply)      (None, None, None,     0       ['block6c_activation[0][0]',
                                  2304)                           'block6c_se_expand[0][0]']


block6c_project_conv (Conv2D)     (None, None, None,     884736  ['block6c_se_excite[0][0]']
                                  384)
```

```
block6c_project_bn (BatchNorma    (None, None, None,    1536    ['block6c_project_conv[0][0]']
lization)                          384)


block6c_drop (FixedDropout)       (None, None, None,    0       ['block6c_project_bn[0][0]']

                                   384)


block6c_add (Add)                 (None, None, None,    0       ['block6c_drop[0][0]',

                                   384)
                                                                 'block6b_add[0][0]']


block6d_expand_conv (Conv2D)      (None, None, None,    884736  ['block6c_add[0][0]']

                                   2304)


block6d_expand_bn (BatchNormal    (None, None, None,    9216    ['block6d_expand_conv[0][0]']
ization)                           2304)


block6d_expand_activation (Act    (None, None, None,    0       ['block6d_expand_bn[0][0]']
ivation)                           2304)


block6d_dwconv (DepthwiseConv2    (None, None, None,    57600   ['block6d_expand_activation[0][0]
D)                                 2304)                                                        ']


block6d_bn (BatchNormalization    (None, None, None,    9216    ['block6d_dwconv[0][0]']
)                                  2304)
```

```
 block6d_activation (Activation    (None, None, None,    0
['block6d_bn[0][0]']

 )                                 2304)


 block6d_se_squeeze (GlobalAver    (None, 2304)          0
['block6d_activation[0][0]']

 agePooling2D)


 block6d_se_reshape (Reshape)      (None, 1, 1, 2304)    0
['block6d_se_squeeze[0][0]']


 block6d_se_reduce (Conv2D)        (None, 1, 1, 96)      221280
['block6d_se_reshape[0][0]']


 block6d_se_expand (Conv2D)        (None, 1, 1, 2304)    223488
['block6d_se_reduce[0][0]']


 block6d_se_excite (Multiply)      (None, None, None,    0
['block6d_activation[0][0]',

                                   2304)
'block6d_se_expand[0][0]']


 block6d_project_conv (Conv2D)     (None, None, None,    884736
['block6d_se_excite[0][0]']

                                   384)


 block6d_project_bn (BatchNorma    (None, None, None,    1536
['block6d_project_conv[0][0]']

 lization)                         384)


 block6d_drop (FixedDropout)       (None, None, None,    0
['block6d_project_bn[0][0]']
```

```
                                        384)


 block6d_add (Add)                (None, None, None,    0    ['block6d_drop[0][0]',
                                        384)
                                                            'block6c_add[0][0]']


 block6e_expand_conv (Conv2D)     (None, None, None,   884736  ['block6d_add[0][0]']
                                        2304)


 block6e_expand_bn (BatchNormal   (None, None, None,   9216   ['block6e_expand_conv[0][0]']
 ization)                              2304)


 block6e_expand_activation (Act   (None, None, None,    0    ['block6e_expand_bn[0][0]']
 ivation)                              2304)


 block6e_dwconv (DepthwiseConv2   (None, None, None,   57600  ['block6e_expand_activation[0][0]
 D)                                    2304)                                          ']


 block6e_bn (BatchNormalization   (None, None, None,   9216   ['block6e_dwconv[0][0]']
 )                                     2304)


 block6e_activation (Activation   (None, None, None,    0    ['block6e_bn[0][0]']
 )                                     2304)


 block6e_se_squeeze (GlobalAver   (None, 2304)          0    ['block6e_activation[0][0]']
```

agePooling2D)

block6e_se_reshape (Reshape)   (None, 1, 1, 2304)   0
['block6e_se_squeeze[0][0]']

block6e_se_reduce (Conv2D)   (None, 1, 1, 96)   221280
['block6e_se_reshape[0][0]']

block6e_se_expand (Conv2D)   (None, 1, 1, 2304)   223488
['block6e_se_reduce[0][0]']

block6e_se_excite (Multiply)   (None, None, None,   0
['block6e_activation[0][0]',

                                2304)

'block6e_se_expand[0][0]']

block6e_project_conv (Conv2D)   (None, None, None,   884736
['block6e_se_excite[0][0]']

                                384)

block6e_project_bn (BatchNorma   (None, None, None,   1536
['block6e_project_conv[0][0]']

lization)   384)

block6e_drop (FixedDropout)   (None, None, None,   0
['block6e_project_bn[0][0]']

                                384)

block6e_add (Add)   (None, None, None,   0
['block6e_drop[0][0]',

                                384)

'block6d_add[0][0]']

```
 block6f_expand_conv (Conv2D)    (None, None, None,   884736    ['block6e_add[0][0]']

                                  2304)


 block6f_expand_bn (BatchNormal   (None, None, None,   9216      ['block6f_expand_conv[0][0]']
 ization)                         2304)


 block6f_expand_activation (Act   (None, None, None,   0         ['block6f_expand_bn[0][0]']
 ivation)                         2304)


 block6f_dwconv (DepthwiseConv2   (None, None, None,   57600     ['block6f_expand_activation[0][0]
 D)                               2304)                          ']


 block6f_bn (BatchNormalization   (None, None, None,   9216      ['block6f_dwconv[0][0]']
 )                                2304)


 block6f_activation (Activation   (None, None, None,   0         ['block6f_bn[0][0]']
 )                                2304)


 block6f_se_squeeze (GlobalAver   (None, 2304)         0         ['block6f_activation[0][0]']
 agePooling2D)


 block6f_se_reshape (Reshape)     (None, 1, 1, 2304)   0         ['block6f_se_squeeze[0][0]']


 block6f_se_reduce (Conv2D)       (None, 1, 1, 96)     221280    ['block6f_se_reshape[0][0]']
```

```
block6f_se_expand (Conv2D)      (None, 1, 1, 2304)    223488
['block6f_se_reduce[0][0]']


block6f_se_excite (Multiply)    (None, None, None,    0
['block6f_activation[0][0]',

                                 2304)
'block6f_se_expand[0][0]']


block6f_project_conv (Conv2D)   (None, None, None,    884736
['block6f_se_excite[0][0]']

                                 384)


block6f_project_bn (BatchNorma  (None, None, None,    1536
['block6f_project_conv[0][0]']
 lization)                       384)


block6f_drop (FixedDropout)     (None, None, None,    0
['block6f_project_bn[0][0]']

                                 384)


block6f_add (Add)               (None, None, None,    0
['block6f_drop[0][0]',

                                 384)
'block6e_add[0][0]']


block6g_expand_conv (Conv2D)    (None, None, None,    884736
['block6f_add[0][0]']

                                 2304)


block6g_expand_bn (BatchNormal  (None, None, None,    9216
['block6g_expand_conv[0][0]']
 ization)                        2304)
```

```
block6g_expand_activation (Act   (None, None, None,    0          ['block6g_expand_bn[0][0]']
ivation)                          2304)


block6g_dwconv (DepthwiseConv2   (None, None, None,    57600      ['block6g_expand_activation[0][0]
D)                                2304)                                                           ']


block6g_bn (BatchNormalization   (None, None, None,    9216       ['block6g_dwconv[0][0]']
)                                 2304)


block6g_activation (Activation   (None, None, None,    0          ['block6g_bn[0][0]']
)                                 2304)


block6g_se_squeeze (GlobalAver   (None, 2304)          0          ['block6g_activation[0][0]']
agePooling2D)


block6g_se_reshape (Reshape)     (None, 1, 1, 2304)    0          ['block6g_se_squeeze[0][0]']


block6g_se_reduce (Conv2D)       (None, 1, 1, 96)      221280     ['block6g_se_reshape[0][0]']


block6g_se_expand (Conv2D)       (None, 1, 1, 2304)    223488     ['block6g_se_reduce[0][0]']


block6g_se_excite (Multiply)     (None, None, None,    0          ['block6g_activation[0][0]',
```

```
                                    2304)
'block6g_se_expand[0][0]']


 block6g_project_conv (Conv2D)    (None, None, None,    884736
['block6g_se_excite[0][0]']

                                  384)


 block6g_project_bn (BatchNorma   (None, None, None,    1536
['block6g_project_conv[0][0]']

 lization)                        384)


 block6g_drop (FixedDropout)      (None, None, None,    0
['block6g_project_bn[0][0]']

                                  384)


 block6g_add (Add)                (None, None, None,    0
['block6g_drop[0][0]',

                                  384)
'block6f_add[0][0]']


 block6h_expand_conv (Conv2D)     (None, None, None,    884736
['block6g_add[0][0]']

                                  2304)


 block6h_expand_bn (BatchNormal   (None, None, None,    9216
['block6h_expand_conv[0][0]']

 ization)                         2304)


 block6h_expand_activation (Act   (None, None, None,    0
['block6h_expand_bn[0][0]']

 ivation)                         2304)
```

```
block6h_dwconv (DepthwiseConv2    (None, None, None,    57600    ['block6h_expand_activation[0][0]
D)                                2304)                                                          ']


block6h_bn (BatchNormalization    (None, None, None,    9216     ['block6h_dwconv[0][0]']
)                                 2304)


block6h_activation (Activation    (None, None, None,    0        ['block6h_bn[0][0]']
)                                 2304)


block6h_se_squeeze (GlobalAver    (None, 2304)          0        ['block6h_activation[0][0]']
agePooling2D)


block6h_se_reshape (Reshape)     (None, 1, 1, 2304)    0        ['block6h_se_squeeze[0][0]']


block6h_se_reduce (Conv2D)       (None, 1, 1, 96)      221280   ['block6h_se_reshape[0][0]']


block6h_se_expand (Conv2D)       (None, 1, 1, 2304)    223488   ['block6h_se_reduce[0][0]']


block6h_se_excite (Multiply)     (None, None, None,    0        ['block6h_activation[0][0]',
                                 2304)
                                                                 'block6h_se_expand[0][0]']


block6h_project_conv (Conv2D)    (None, None, None,    884736   ['block6h_se_excite[0][0]']
                                 384)
```

```
block6h_project_bn (BatchNorma    (None, None, None,    1536
['block6h_project_conv[0][0]']

 lization)                        384)



 block6h_drop (FixedDropout)      (None, None, None,    0
['block6h_project_bn[0][0]']

                                  384)



 block6h_add (Add)                (None, None, None,    0
['block6h_drop[0][0]',

                                  384)
'block6g_add[0][0]']



 block6i_expand_conv (Conv2D)     (None, None, None,    884736
['block6h_add[0][0]']

                                  2304)



 block6i_expand_bn (BatchNormal   (None, None, None,    9216
['block6i_expand_conv[0][0]']

 ization)                         2304)



 block6i_expand_activation (Act   (None, None, None,    0
['block6i_expand_bn[0][0]']

 ivation)                         2304)



 block6i_dwconv (DepthwiseConv2   (None, None, None,    57600
['block6i_expand_activation[0][0]

 D)                               2304)                                   ']



 block6i_bn (BatchNormalization   (None, None, None,    9216
['block6i_dwconv[0][0]']

 )                                2304)
```

```
 block6i_activation (Activation   (None, None, None,    0
['block6i_bn[0][0]']

 )                                2304)



 block6i_se_squeeze (GlobalAver   (None, 2304)          0
['block6i_activation[0][0]']

 agePooling2D)



 block6i_se_reshape (Reshape)     (None, 1, 1, 2304)    0
['block6i_se_squeeze[0][0]']



 block6i_se_reduce (Conv2D)       (None, 1, 1, 96)      221280
['block6i_se_reshape[0][0]']



 block6i_se_expand (Conv2D)       (None, 1, 1, 2304)    223488
['block6i_se_reduce[0][0]']



 block6i_se_excite (Multiply)     (None, None, None,    0
['block6i_activation[0][0]',

                                  2304)
'block6i_se_expand[0][0]']



 block6i_project_conv (Conv2D)    (None, None, None,    884736
['block6i_se_excite[0][0]']

                                  384)



 block6i_project_bn (BatchNorma   (None, None, None,    1536
['block6i_project_conv[0][0]']

 lization)                        384)



 block6i_drop (FixedDropout)      (None, None, None,    0
['block6i_project_bn[0][0]']
```

```
                                        384)


 block6i_add (Add)                (None, None, None,    0     ['block6i_drop[0][0]',
                                        384)
                                                              'block6h_add[0][0]']


 block6j_expand_conv (Conv2D)     (None, None, None,    884736 ['block6i_add[0][0]']
                                        2304)


 block6j_expand_bn (BatchNormal   (None, None, None,    9216   ['block6j_expand_conv[0][0]']
 ization)                              2304)


 block6j_expand_activation (Act   (None, None, None,    0      ['block6j_expand_bn[0][0]']
 ivation)                              2304)


 block6j_dwconv (DepthwiseConv2   (None, None, None,    57600  ['block6j_expand_activation[0][0]
 D)                                    2304)                   ']


 block6j_bn (BatchNormalization   (None, None, None,    9216   ['block6j_dwconv[0][0]']
 )                                     2304)


 block6j_activation (Activation   (None, None, None,    0      ['block6j_bn[0][0]']
 )                                     2304)


 block6j_se_squeeze (GlobalAver   (None, 2304)          0      ['block6j_activation[0][0]']
```

agePooling2D)

block6j_se_reshape (Reshape)   (None, 1, 1, 2304)   0
['block6j_se_squeeze[0][0]']

block6j_se_reduce (Conv2D)   (None, 1, 1, 96)   221280
['block6j_se_reshape[0][0]']

block6j_se_expand (Conv2D)   (None, 1, 1, 2304)   223488
['block6j_se_reduce[0][0]']

block6j_se_excite (Multiply)   (None, None, None,   0
['block6j_activation[0][0]',

                                 2304)

'block6j_se_expand[0][0]']

block6j_project_conv (Conv2D) (None, None, None,   884736
['block6j_se_excite[0][0]']

                                 384)

block6j_project_bn (BatchNorma (None, None, None,   1536
['block6j_project_conv[0][0]']

 lization)   384)

block6j_drop (FixedDropout)   (None, None, None,   0
['block6j_project_bn[0][0]']

                                 384)

block6j_add (Add)   (None, None, None,   0
['block6j_drop[0][0]',

                                 384)

'block6i_add[0][0]']

```
block6k_expand_conv (Conv2D)      (None, None, None,    884736    ['block6j_add[0][0]']
                                   2304)

block6k_expand_bn (BatchNormal    (None, None, None,    9216      ['block6k_expand_conv[0][0]']
ization)                          2304)

block6k_expand_activation (Act    (None, None, None,    0         ['block6k_expand_bn[0][0]']
ivation)                          2304)

block6k_dwconv (DepthwiseConv2    (None, None, None,    57600     ['block6k_expand_activation[0][0]
D)                                2304)                                                          ']

block6k_bn (BatchNormalization    (None, None, None,    9216      ['block6k_dwconv[0][0]']
)                                 2304)

block6k_activation (Activation    (None, None, None,    0         ['block6k_bn[0][0]']
)                                 2304)

block6k_se_squeeze (GlobalAver    (None, 2304)          0         ['block6k_activation[0][0]']
agePooling2D)

block6k_se_reshape (Reshape)      (None, 1, 1, 2304)    0         ['block6k_se_squeeze[0][0]']

block6k_se_reduce (Conv2D)        (None, 1, 1, 96)      221280    ['block6k_se_reshape[0][0]']
```

```
 block6k_se_expand (Conv2D)      (None, 1, 1, 2304)    223488
['block6k_se_reduce[0][0]']


 block6k_se_excite (Multiply)    (None, None, None,    0
['block6k_activation[0][0]',

                                 2304)
'block6k_se_expand[0][0]']


 block6k_project_conv (Conv2D)   (None, None, None,    884736
['block6k_se_excite[0][0]']

                                 384)


 block6k_project_bn (BatchNorma  (None, None, None,    1536
['block6k_project_conv[0][0]']
 lization)                       384)


 block6k_drop (FixedDropout)     (None, None, None,    0
['block6k_project_bn[0][0]']

                                 384)


 block6k_add (Add)               (None, None, None,    0
['block6k_drop[0][0]',

                                 384)
'block6j_add[0][0]']


 block6l_expand_conv (Conv2D)    (None, None, None,    884736
['block6k_add[0][0]']

                                 2304)


 block6l_expand_bn (BatchNormal  (None, None, None,    9216
['block6l_expand_conv[0][0]']
 ization)                        2304)
```

```
block6l_expand_activation (Act    (None, None, None,    0        ['block6l_expand_bn[0][0]']
ivation)                          2304)


block6l_dwconv (DepthwiseConv2    (None, None, None,    57600    ['block6l_expand_activation[0][0]
D)                                2304)                                                          ']


block6l_bn (BatchNormalization    (None, None, None,    9216     ['block6l_dwconv[0][0]']
)                                 2304)


block6l_activation (Activation    (None, None, None,    0        ['block6l_bn[0][0]']
)                                 2304)


block6l_se_squeeze (GlobalAver    (None, 2304)          0        ['block6l_activation[0][0]']
agePooling2D)


block6l_se_reshape (Reshape)      (None, 1, 1, 2304)    0        ['block6l_se_squeeze[0][0]']


block6l_se_reduce (Conv2D)        (None, 1, 1, 96)      221280   ['block6l_se_reshape[0][0]']


block6l_se_expand (Conv2D)        (None, 1, 1, 2304)    223488   ['block6l_se_reduce[0][0]']


block6l_se_excite (Multiply)      (None, None, None,    0        ['block6l_activation[0][0]',
```

```
                                    2304)
'block6l_se_expand[0][0]']


 block6l_project_conv (Conv2D)    (None, None, None,    884736
['block6l_se_excite[0][0]']

                                   384)


 block6l_project_bn (BatchNorma   (None, None, None,    1536
['block6l_project_conv[0][0]']

 lization)                        384)


 block6l_drop (FixedDropout)      (None, None, None,    0
['block6l_project_bn[0][0]']

                                   384)


 block6l_add (Add)                (None, None, None,    0
['block6l_drop[0][0]',

                                   384)
'block6k_add[0][0]']


 block6m_expand_conv (Conv2D)     (None, None, None,    884736
['block6l_add[0][0]']

                                   2304)


 block6m_expand_bn (BatchNormal   (None, None, None,    9216
['block6m_expand_conv[0][0]']

 ization)                         2304)


 block6m_expand_activation (Act   (None, None, None,    0
['block6m_expand_bn[0][0]']

 ivation)                         2304)
```

```
block6m_dwconv (DepthwiseConv2    (None, None, None,    57600    ['block6m_expand_activation[0][0]
D)                                2304)                                                            ']


block6m_bn (BatchNormalization    (None, None, None,    9216     ['block6m_dwconv[0][0]']
)                                 2304)


block6m_activation (Activation    (None, None, None,    0        ['block6m_bn[0][0]']
)                                 2304)


block6m_se_squeeze (GlobalAver    (None, 2304)          0        ['block6m_activation[0][0]']
agePooling2D)


block6m_se_reshape (Reshape)      (None, 1, 1, 2304)    0        ['block6m_se_squeeze[0][0]']


block6m_se_reduce (Conv2D)        (None, 1, 1, 96)      221280   ['block6m_se_reshape[0][0]']


block6m_se_expand (Conv2D)        (None, 1, 1, 2304)    223488   ['block6m_se_reduce[0][0]']


block6m_se_excite (Multiply)      (None, None, None,    0        ['block6m_activation[0][0]',
                                  2304)                          'block6m_se_expand[0][0]']


block6m_project_conv (Conv2D)     (None, None, None,    884736   ['block6m_se_excite[0][0]']
                                  384)
```

```
 block6m_project_bn (BatchNorma   (None, None, None,    1536
['block6m_project_conv[0][0]']

 lization)                        384)



 block6m_drop (FixedDropout)     (None, None, None,    0
['block6m_project_bn[0][0]']

                                 384)



 block6m_add (Add)               (None, None, None,    0
['block6m_drop[0][0]',

                                 384)
'block6l_add[0][0]']



 block7a_expand_conv (Conv2D)    (None, None, None,    884736
['block6m_add[0][0]']

                                 2304)



 block7a_expand_bn (BatchNormal   (None, None, None,    9216
['block7a_expand_conv[0][0]']

 ization)                        2304)



 block7a_expand_activation (Act  (None, None, None,    0
['block7a_expand_bn[0][0]']

 ivation)                        2304)



 block7a_dwconv (DepthwiseConv2  (None, None, None,    20736
['block7a_expand_activation[0][0]

 D)                              2304)                                        ']



 block7a_bn (BatchNormalization  (None, None, None,    9216
['block7a_dwconv[0][0]']

 )                               2304)
```

```
block7a_activation (Activation   (None, None, None,    0
['block7a_bn[0][0]']

)                                2304)



block7a_se_squeeze (GlobalAver   (None, 2304)          0
['block7a_activation[0][0]']

agePooling2D)



block7a_se_reshape (Reshape)     (None, 1, 1, 2304)    0
['block7a_se_squeeze[0][0]']



block7a_se_reduce (Conv2D)       (None, 1, 1, 96)      221280
['block7a_se_reshape[0][0]']



block7a_se_expand (Conv2D)       (None, 1, 1, 2304)    223488
['block7a_se_reduce[0][0]']



block7a_se_excite (Multiply)     (None, None, None,    0
['block7a_activation[0][0]',

                                 2304)
'block7a_se_expand[0][0]']



block7a_project_conv (Conv2D)    (None, None, None,    1474560
['block7a_se_excite[0][0]']

                                 640)



block7a_project_bn (BatchNorma   (None, None, None,    2560
['block7a_project_conv[0][0]']

lization)                        640)



block7b_expand_conv (Conv2D)     (None, None, None,    2457600
['block7a_project_bn[0][0]']
```

```
                                    3840)


 block7b_expand_bn (BatchNormal   (None, None, None,     15360   ['block7b_expand_conv[0][0]']
                                  3840)
 ization)


 block7b_expand_activation (Act   (None, None, None,       0     ['block7b_expand_bn[0][0]']
                                  3840)
 ivation)


 block7b_dwconv (DepthwiseConv2   (None, None, None,     34560   ['block7b_expand_activation[0][0]
                                  3840)                                                          ']
 D)


 block7b_bn (BatchNormalization   (None, None, None,     15360   ['block7b_dwconv[0][0]']
                                  3840)
 )


 block7b_activation (Activation   (None, None, None,       0     ['block7b_bn[0][0]']
                                  3840)
 )


 block7b_se_squeeze (GlobalAver   (None, 3840)             0      ['block7b_activation[0][0]']

 agePooling2D)


 block7b_se_reshape (Reshape)     (None, 1, 1, 3840)       0      ['block7b_se_squeeze[0][0]']


 block7b_se_reduce (Conv2D)       (None, 1, 1, 160)      614560   ['block7b_se_reshape[0][0]']
```

```
block7b_se_expand (Conv2D)      (None, 1, 1, 3840)   618240
['block7b_se_reduce[0][0]']


block7b_se_excite (Multiply)    (None, None, None,    0
['block7b_activation[0][0]',

                                 3840)
'block7b_se_expand[0][0]']


block7b_project_conv (Conv2D)   (None, None, None,    2457600
['block7b_se_excite[0][0]']

                                 640)


block7b_project_bn (BatchNorma  (None, None, None,    2560
['block7b_project_conv[0][0]']

 lization)                       640)


block7b_drop (FixedDropout)     (None, None, None,    0
['block7b_project_bn[0][0]']

                                 640)


block7b_add (Add)               (None, None, None,    0
['block7b_drop[0][0]',

                                 640)
'block7a_project_bn[0][0]']


block7c_expand_conv (Conv2D)    (None, None, None,    2457600
['block7b_add[0][0]']

                                 3840)


block7c_expand_bn (BatchNormal  (None, None, None,    15360
['block7c_expand_conv[0][0]']

 ization)                        3840)
```

```
block7c_expand_activation (Act      (None, None, None,    0        ['block7c_expand_bn[0][0]']
 ivation)                            3840)


block7c_dwconv (DepthwiseConv2       (None, None, None,    34560    ['block7c_expand_activation[0][0]
 D)                                  3840)                                                       ']


block7c_bn (BatchNormalization       (None, None, None,    15360    ['block7c_dwconv[0][0]']
 )                                   3840)


block7c_activation (Activation       (None, None, None,    0        ['block7c_bn[0][0]']
 )                                   3840)


block7c_se_squeeze (GlobalAver       (None, 3840)          0        ['block7c_activation[0][0]']
 agePooling2D)


block7c_se_reshape (Reshape)         (None, 1, 1, 3840)    0        ['block7c_se_squeeze[0][0]']


block7c_se_reduce (Conv2D)           (None, 1, 1, 160)     614560   ['block7c_se_reshape[0][0]']


block7c_se_expand (Conv2D)           (None, 1, 1, 3840)    618240   ['block7c_se_reduce[0][0]']


block7c_se_excite (Multiply)         (None, None, None,    0        ['block7c_activation[0][0]',
                                     3840)                           'block7c_se_expand[0][0]']
```

```
 block7c_project_conv (Conv2D)   (None, None, None,   2457600   ['block7c_se_excite[0][0]']

                                  640)


 block7c_project_bn (BatchNorma  (None, None, None,   2560      ['block7c_project_conv[0][0]']
 lization)                       640)


 block7c_drop (FixedDropout)     (None, None, None,   0         ['block7c_project_bn[0][0]']

                                  640)


 block7c_add (Add)               (None, None, None,   0         ['block7c_drop[0][0]',

                                  640)
 'block7b_add[0][0]']


 block7d_expand_conv (Conv2D)    (None, None, None,   2457600   ['block7c_add[0][0]']

                                  3840)


 block7d_expand_bn (BatchNormal  (None, None, None,   15360     ['block7d_expand_conv[0][0]']
 ization)                        3840)


 block7d_expand_activation (Act  (None, None, None,   0         ['block7d_expand_bn[0][0]']
 ivation)                        3840)


 block7d_dwconv (DepthwiseConv2  (None, None, None,   34560     ['block7d_expand_activation[0][0]
 D)                              3840)                          ']
```

```
 block7d_bn (BatchNormalization    (None, None, None,    15360
['block7d_dwconv[0][0]']

 )                                 3840)


 block7d_activation (Activation    (None, None, None,    0
['block7d_bn[0][0]']

 )                                 3840)


 block7d_se_squeeze (GlobalAver    (None, 3840)          0
['block7d_activation[0][0]']

 agePooling2D)


 block7d_se_reshape (Reshape)      (None, 1, 1, 3840)    0
['block7d_se_squeeze[0][0]']


 block7d_se_reduce (Conv2D)        (None, 1, 1, 160)     614560
['block7d_se_reshape[0][0]']


 block7d_se_expand (Conv2D)        (None, 1, 1, 3840)    618240
['block7d_se_reduce[0][0]']


 block7d_se_excite (Multiply)      (None, None, None,    0
['block7d_activation[0][0]',

                                   3840)
'block7d_se_expand[0][0]']


 block7d_project_conv (Conv2D)     (None, None, None,    2457600
['block7d_se_excite[0][0]']

                                   640)


 block7d_project_bn (BatchNorma    (None, None, None,    2560
['block7d_project_conv[0][0]']
```

```
 lization)                    640)


 block7d_drop (FixedDropout)   (None, None, None,   0
['block7d_project_bn[0][0]']

                              640)


 block7d_add (Add)             (None, None, None,   0
['block7d_drop[0][0]',

                              640)
'block7c_add[0][0]']


 top_conv (Conv2D)             (None, None, None,   1638400
['block7d_add[0][0]']

                              2560)


 top_bn (BatchNormalization)   (None, None, None,   10240
['top_conv[0][0]']

                              2560)


 top_activation (Activation)   (None, None, None,   0              ['top_bn[0][0]']

                              2560)


 decoder_stage0_upsampling (UpS  (None, None, None,   0
['top_activation[0][0]']

 ampling2D)                    2560)


 decoder_stage0_concat (Concate  (None, None, None,   0
['decoder_stage0_upsampling[0][0]

 nate)                         3904)                                   ',

'block6a_expand_activation[0][0]

                                                                       ']
```

```
 decoder_stage0a_conv (Conv2D)   (None, None, None,   8994816   ['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)                           736)                                                        ',
```

'block4a_expand_activation[0][0]

']

 decoder_stage1a_conv (Conv2D)   (None, None, None,   847872   ['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)                            416)                             ',

                                                                   'block3a_expand_activation[0][0]

                                                                   ']


 decoder_stage2a_conv (Conv2D)    (None, None, None,    239616     ['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)                        256)                                              ',

'block2a_expand_activation[0][0]

                                                                               ']


 decoder_stage3a_conv (Conv2D)  (None, None, None,    73728
['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,    1740   ['decoder_stage4b_relu[0][0]']
                                  12)
```

```
 softmax (Activation)              (None, None, None,   0
['final_conv[0][0]']

                                   12)


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Total params: 75,049,692

Trainable params: 74,736,988

Non-trainable params: 312,704


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None
```

Trained Model H5 Files

Click https://drive.google.com/drive/folders/1r0l1Y6gRV5e-5qHYWaCF7_uqkdbHRlsB?usp=sharing