

Model: "deeplabv3p_mobilevit_s"

Layer (type)	Output Shape	Param #	Connected to
=====			
image_input (InputLayer)	[(None, 512, 512, 3 0)]		[]
stem_conv (Conv2D)	(None, 256, 256, 16 432)		['image_input[0]
stem_conv_BN (BatchNormalizati [0]'] on)	(None, 256, 256, 16 64)		['stem_conv[0]
stem_conv_swish (Activation)	(None, 256, 256, 16 0)		['stem_conv_BN[0]
mv2_block_0__expand (Conv2D)	(None, 256, 256, 64 1024)		['stem_conv_swish [0][0]']
mv2_block_0_expand_BN (BatchNo pand[0][0]'] rmalization)	(None, 256, 256, 64 256)		['mv2_block_0__ex
mv2_block_0_expand_swish (Acti and_BN[0][0]'] vation)	(None, 256, 256, 64 0)		['mv2_block_0_exp
mv2_block_0_depthwise (Depthwi and_swish[0][0]'] seConv2D)	(None, 256, 256, 64 576)		['mv2_block_0_exp]
mv2_block_0_depthwise_BN (Batc thwise[0][0]'] hNormalization)	(None, 256, 256, 64 256)		['mv2_block_0_dep
mv2_block_0_depthwise_swish (A thwise_BN[0][0]'] ctivation)	(None, 256, 256, 64 0)		['mv2_block_0_dep]
mv2_block_0_project (Conv2D)	(None, 256, 256, 32 2048)		['mv2_block_0_dep thwise_swish[0][
mv2_block_0_project_BN (BatchN ject[0][0]'] ormalization)	(None, 256, 256, 32 128)		['mv2_block_0_pro
mv2_block_1__expand (Conv2D)	(None, 256, 256, 12 4096 8)		['mv2_block_0_pro
mv2_block_1_expand_BN (BatchNo pand[0][0]'] rmalization)	(None, 256, 256, 12 512 8)		['mv2_block_1__ex

mv2_block_1_expand_swish (Activation) and_BN[0][0]')	(None, 256, 256, 12 0 8)	['mv2_block_1_exp
mv2_block_1_pad (ZeroPadding2D) and_swish[0][0]')	(None, 257, 257, 12 0 8)	['mv2_block_1_exp]
mv2_block_1_depthwise (DepthwiseConv2D) [0][0]')	(None, 128, 128, 12 1152 8)	['mv2_block_1_pad
mv2_block_1_depthwise_BN (BatchNormalization) thwise[0][0]')	(None, 128, 128, 12 512 8)	['mv2_block_1_dep
mv2_block_1_depthwise_swish (Activation) thwise_BN[0][0]')	(None, 128, 128, 12 0 8)	['mv2_block_1_dep]
mv2_block_1_project (Conv2D) thwise_swish[0][0]')	(None, 128, 128, 64 8192)	['mv2_block_1_dep 0]']
mv2_block_1_project_BN (BatchNormalization) ject[0][0]')	(None, 128, 128, 64 256)	['mv2_block_1_pro
mv2_block_2__expand (Conv2D) ject_BN[0][0]')	(None, 128, 128, 25 16384 6)	['mv2_block_1_pro
mv2_block_2_expand_BN (BatchNormalization) pand[0][0]')	(None, 128, 128, 25 1024 6)	['mv2_block_2__ex
mv2_block_2_expand_swish (Activation) and_BN[0][0]')	(None, 128, 128, 25 0 6)	['mv2_block_2_exp
mv2_block_2_depthwise (DepthwiseConv2D) and_swish[0][0]')	(None, 128, 128, 25 2304 6)	['mv2_block_2_exp]
mv2_block_2_depthwise_BN (BatchNormalization) thwise[0][0]')	(None, 128, 128, 25 1024 6)	['mv2_block_2_dep
mv2_block_2_depthwise_swish (Activation) thwise_BN[0][0]')	(None, 128, 128, 25 0 6)	['mv2_block_2_dep]
mv2_block_2_project (Conv2D) thwise_swish[0][0]')	(None, 128, 128, 64 16384)	['mv2_block_2_dep 0]']
mv2_block_2_project_BN (BatchNormalization) ject[0][0]')	(None, 128, 128, 64 256)	['mv2_block_2_pro
mv2_block_2_add (Add)	(None, 128, 128, 64 0	['mv2_block_1_pro

ject_BN[0][0]',	)	'mv2_block_2_pro
ject_BN[0][0]']		
mv2_block_3__expand (Conv2D)	(None, 128, 128, 25 16384	['mv2_block_2_add
[0][0]']	6)	
mv2_block_3_expand_BN (BatchNo	(None, 128, 128, 25 1024	['mv2_block_3__ex
pand[0][0]']	6)	
rmalization)		
mv2_block_3_expand_swish (Acti	(None, 128, 128, 25 0	['mv2_block_3_exp
and_BN[0][0]']	6)	
vation)		
mv2_block_3_depthwise (Depthwi	(None, 128, 128, 25 2304	['mv2_block_3_exp
and_swish[0][0]'	6)	
seConv2D)]
mv2_block_3_depthwise_BN (Batc	(None, 128, 128, 25 1024	['mv2_block_3_dep
thwise[0][0]']	6)	
hNormalization)		
mv2_block_3_depthwise_swish (A	(None, 128, 128, 25 0	['mv2_block_3_dep
thwise_BN[0][0]'	6)	
ctivation)]
mv2_block_3_project (Conv2D)	(None, 128, 128, 64 16384	['mv2_block_3_dep
thwise_swish[0][	)	0]']
mv2_block_3_project_BN (BatchN	(None, 128, 128, 64 256	['mv2_block_3_pro
ject[0][0]'])	
ormalization)		
mv2_block_3_add (Add)	(None, 128, 128, 64 0	['mv2_block_2_add
[0][0]',)	
		'mv2_block_3_pro
ject_BN[0][0]']		
mv2_block_4__expand (Conv2D)	(None, 128, 128, 25 16384	['mv2_block_3_add
[0][0]']	6)	
mv2_block_4_expand_BN (BatchNo	(None, 128, 128, 25 1024	['mv2_block_4__ex
pand[0][0]']	6)	
rmalization)		
mv2_block_4_expand_swish (Acti	(None, 128, 128, 25 0	['mv2_block_4_exp
and_BN[0][0]']	6)	
vation)		
mv2_block_4_pad (ZeroPadding2D	(None, 129, 129, 25 0	['mv2_block_4_exp
and_swish[0][0]'	6)	
)]
mv2_block_4_depthwise (Depthwi	(None, 64, 64, 256) 2304	['mv2_block_4_pad
[0][0]']		
seConv2D)		

mv2_block_4_depthwise_BN (Batch Normalization)	(None, 64, 64, 256)	1024	['mv2_block_4_depthwise[0][0]']
mv2_block_4_depthwise_swish (Activation)	(None, 64, 64, 256)	0	['mv2_block_4_depthwise_BN[0][0]']
mv2_block_4_project (Conv2D)	(None, 64, 64, 96)	24576	['mv2_block_4_depthwise_swish[0][0]']
mv2_block_4_project_BN (Batch Normalization)	(None, 64, 64, 96)	384	['mv2_block_4_project[0][0]']
mvit_block_0_conv1 (Conv2D)	(None, 64, 64, 144)	124416	['mv2_block_4_project_BN[0][0]']
mvit_block_0_conv1_BN (Batch Normalization)	(None, 64, 64, 144)	576	['mvit_block_0_conv1[0][0]']
mvit_block_0_conv1_swish (Activation)	(None, 64, 64, 144)	0	['mvit_block_0_conv1_BN[0][0]']
mvit_block_0_conv2 (Conv2D)	(None, 64, 64, 144)	20736	['mvit_block_0_conv1_swish[0][0]']
mvit_block_0_conv2_BN (Batch Normalization)	(None, 64, 64, 144)	576	['mvit_block_0_conv2[0][0]']
mvit_block_0_conv2_swish (Activation)	(None, 64, 64, 144)	0	['mvit_block_0_conv2_BN[0][0]']
mvit_block_0_unfold (Reshape)	(None, 4, 1024, 144)	0	['mvit_block_0_conv2_swish[0][0]']
mvit_block_0_transformer_0_LN1 (Layer Normalization)	(None, 4, 1024, 144)	288	['mvit_block_0_unfold[0][0]']
mvit_block_0_transformer_0_attention (MultiHeadAttention)	(None, 4, 1024, 144)	83520	['mvit_block_0_transformer_0_LN1[0][0]']
mvit_block_0_transformer_0_add1 (Add)	(None, 4, 1024, 144)	0	['mvit_block_0_transformer_0_attention[0][0]']
mvit_block_0_transformer_0_LN2 (Layer Normalization)	(None, 4, 1024, 144)	288	['mvit_block_0_transformer_0_add1[0][0]']

ansformer_0_add1 (LayerNormalization)	)	[0][0]'
mvit_block_0_transformer_0_ff_ ansformer_0_LN2[0_dense (Dense)	(None, 4, 1024, 288 41760)	['mvit_block_0_tr 0][0]'
mvit_block_0_transformer_0_ff_ ansformer_0_ff_0 0_dropout (Dropout)	(None, 4, 1024, 288 0)	['mvit_block_0_tr _dense[0][0]'
mvit_block_0_transformer_0_ff_ ansformer_0_ff_0 1_dense (Dense)	(None, 4, 1024, 144 41616)	['mvit_block_0_tr _dropout[0][0]'
mvit_block_0_transformer_0_ff_ ansformer_0_ff_1 1_dropout (Dropout)	(None, 4, 1024, 144 0)	['mvit_block_0_tr _dense[0][0]'
mvit_block_0_transformer_0_add ansformer_0_ff_1 2 (Add)	(None, 4, 1024, 144 0)	['mvit_block_0_tr _dropout[0][0]', 'mvit_block_0_tr
ansformer_0_add1		[0][0]'
mvit_block_0_transformer_1_LN1 ansformer_0_add2 (LayerNormalization)	(None, 4, 1024, 144 288)	['mvit_block_0_tr [0][0]'
mvit_block_0_transformer_1_att ansformer_1_LN1[ention (MultiHeadAttention)	(None, 4, 1024, 144 83520)	['mvit_block_0_tr 0][0]', 'mvit_block_0_tr
ansformer_1_LN1[		0][0]'
mvit_block_0_transformer_1_add ansformer_1_atte 1 (Add)	(None, 4, 1024, 144 0)	['mvit_block_0_tr ntion[0][0]', 'mvit_block_0_tr
ansformer_0_add2		[0][0]'
mvit_block_0_transformer_1_LN2 ansformer_1_add1 (LayerNormalization)	(None, 4, 1024, 144 288)	['mvit_block_0_tr [0][0]'
mvit_block_0_transformer_1_ff_ ansformer_1_LN2[0_dense (Dense)	(None, 4, 1024, 288 41760)	['mvit_block_0_tr 0][0]'
mvit_block_0_transformer_1_ff_ ansformer_1_ff_0 0_dropout (Dropout)	(None, 4, 1024, 288 0)	['mvit_block_0_tr _dense[0][0]'
mvit_block_0_transformer_1_ff_ ansformer_1_ff_0 1_dense (Dense)	(None, 4, 1024, 144 41616)	['mvit_block_0_tr _dropout[0][0]'
mvit_block_0_transformer_1_ff_ ansformer_1_ff_0 1_dropout (Dropout)	(None, 4, 1024, 144 0)	['mvit_block_0_tr _dense[0][0]'

ansformer_1_ff_1 1_dropout (Dropout)	)		_dense[0][0]']
mvit_block_0_transformer_1_add ansformer_1_ff_1 2 (Add)	(None, 4, 1024, 144 0)		['mvit_block_0_tr _dropout[0][0]', 'mvit_block_0_tr
ansformer_1_add1			[0][0]']
mvit_block_0_fold (Reshape) ansformer_1_add2	(None, 64, 64, 144) 0		['mvit_block_0_tr [0][0]']
mvit_block_0_conv3 (Conv2D) ld[0][0]']	(None, 64, 64, 96) 13824		['mvit_block_0_fo
mvit_block_0_conv3_BN (BatchNo nv3[0][0]'] rmalization)	(None, 64, 64, 96) 384		['mvit_block_0_co
mvit_block_0_conv3_swish (Acti nv3_BN[0][0]'] vation)	(None, 64, 64, 96) 0		['mvit_block_0_co
mvit_block_0_concat (Concatena ject_BN[0][0]'], te) nv3_swish[0][0]'	(None, 64, 64, 192) 0		['mv2_block_4_pro 'mvit_block_0_co]
mvit_block_0_conv4 (Conv2D) ncat[0][0]']	(None, 64, 64, 96) 165888		['mvit_block_0_co
mvit_block_0_conv4_BN (BatchNo nv4[0][0]'] rmalization)	(None, 64, 64, 96) 384		['mvit_block_0_co
mvit_block_0_conv4_swish (Acti nv4_BN[0][0]'] vation)	(None, 64, 64, 96) 0		['mvit_block_0_co
mv2_block_5__expand (Conv2D) nv4_swish[0][0]'	(None, 64, 64, 512) 49152		['mvit_block_0_co]
mv2_block_5_expand_BN (BatchNo pand[0][0]'] rmalization)	(None, 64, 64, 512) 2048		['mv2_block_5__ex
mv2_block_5_expand_swish (Acti and_BN[0][0]'] vation)	(None, 64, 64, 512) 0		['mv2_block_5_exp
mv2_block_5_pad (ZeroPadding2D and_swish[0][0]'])	(None, 65, 65, 512) 0		['mv2_block_5_exp]
mv2_block_5_depthwise (Depthwi [0][0]'] seConv2D)	(None, 32, 32, 512) 4608		['mv2_block_5_pad

mv2_block_5_depthwise_BN (Batch Normalization)	(None, 32, 32, 512)	2048	['mv2_block_5_depthwise[0][0]']
mv2_block_5_depthwise_swish (Activation)	(None, 32, 32, 512)	0	['mv2_block_5_depthwise_BN[0][0]']
mv2_block_5_project (Conv2D)	(None, 32, 32, 128)	65536	['mv2_block_5_depthwise_swish[0][0]']
mv2_block_5_project_BN (Batch Normalization)	(None, 32, 32, 128)	512	['mv2_block_5_project[0][0]']
mvit_block_1_conv1 (Conv2D)	(None, 32, 32, 192)	221184	['mv2_block_5_project_BN[0][0]']
mvit_block_1_conv1_BN (Batch Normalization)	(None, 32, 32, 192)	768	['mvit_block_1_conv1[0][0]']
mvit_block_1_conv1_swish (Activation)	(None, 32, 32, 192)	0	['mvit_block_1_conv1_BN[0][0]']
mvit_block_1_conv2 (Conv2D)	(None, 32, 32, 192)	36864	['mvit_block_1_conv1_swish[0][0]']
mvit_block_1_conv2_BN (Batch Normalization)	(None, 32, 32, 192)	768	['mvit_block_1_conv2[0][0]']
mvit_block_1_conv2_swish (Activation)	(None, 32, 32, 192)	0	['mvit_block_1_conv2_BN[0][0]']
mvit_block_1_unfold (Reshape)	(None, 4, 256, 192)	0	['mvit_block_1_conv2_swish[0][0]']
mvit_block_1_transformer_0_LN1 (Layer Normalization)	(None, 4, 256, 192)	384	['mvit_block_1_unfold[0][0]']
mvit_block_1_transformer_0_attention (MultiHeadAttention)	(None, 4, 256, 192)	148224	['mvit_block_1_transformer_0_LN1[0][0]', 'mvit_block_1_transformer_0_attention[0][0]']
mvit_block_1_transformer_0_add_1 (Add)	(None, 4, 256, 192)	0	['mvit_block_1_transformer_0_add_1[0][0]', 'mvit_block_1_unfold[0][0]']

mvit_block_1_transformer_0_LN2 ansformer_0_add1 (LayerNormalization)	(None, 4, 256, 192)	384	['mvit_block_1_tr [0][0]']
mvit_block_1_transformer_0_ff_ ansformer_0_LN2[0_dense (Dense)	(None, 4, 256, 384)	74112	['mvit_block_1_tr 0][0]']
mvit_block_1_transformer_0_ff_ ansformer_0_ff_0 0_dropout (Dropout)	(None, 4, 256, 384)	0	['mvit_block_1_tr _dense[0][0]']
mvit_block_1_transformer_0_ff_ ansformer_0_ff_0 1_dense (Dense)	(None, 4, 256, 192)	73920	['mvit_block_1_tr _dropout[0][0]']
mvit_block_1_transformer_0_ff_ ansformer_0_ff_1 1_dropout (Dropout)	(None, 4, 256, 192)	0	['mvit_block_1_tr _dense[0][0]']
mvit_block_1_transformer_0_add ansformer_0_ff_1 2 (Add) ansformer_0_add1	(None, 4, 256, 192)	0	['mvit_block_1_tr _dropout[0][0]', 'mvit_block_1_tr [0][0]']
mvit_block_1_transformer_1_LN1 ansformer_0_add2 (LayerNormalization)	(None, 4, 256, 192)	384	['mvit_block_1_tr [0][0]']
mvit_block_1_transformer_1_att ansformer_1_LN1[ention (MultiHeadAttention) ansformer_1_LN1[	(None, 4, 256, 192)	148224	['mvit_block_1_tr 0][0]', 'mvit_block_1_tr 0][0]']
mvit_block_1_transformer_1_add ansformer_1_atte 1 (Add) ansformer_0_add2	(None, 4, 256, 192)	0	['mvit_block_1_tr ntion[0][0]', 'mvit_block_1_tr [0][0]']
mvit_block_1_transformer_1_LN2 ansformer_1_add1 (LayerNormalization)	(None, 4, 256, 192)	384	['mvit_block_1_tr [0][0]']
mvit_block_1_transformer_1_ff_ ansformer_1_LN2[0_dense (Dense)	(None, 4, 256, 384)	74112	['mvit_block_1_tr 0][0]']
mvit_block_1_transformer_1_ff_ ansformer_1_ff_0 0_dropout (Dropout)	(None, 4, 256, 384)	0	['mvit_block_1_tr _dense[0][0]']
mvit_block_1_transformer_1_ff_ ansformer_1_ff_0 1_dense (Dense)	(None, 4, 256, 192)	73920	['mvit_block_1_tr _dropout[0][0]']

mvit_block_1_transformer_1_ff_1_dropout (Dropout)	(None, 4, 256, 192) 0	['mvit_block_1_transformer_1_ff_1_dropout[0][0]']
mvit_block_1_transformer_1_add2 (Add)	(None, 4, 256, 192) 0	['mvit_block_1_transformer_1_add1_dropout[0][0]', 'mvit_block_1_transformer_1_add1_dropout[0][0]']
mvit_block_1_transformer_2_LN1 (LayerNormalization)	(None, 4, 256, 192) 384	['mvit_block_1_transformer_2_add2_dropout[0][0]']
mvit_block_1_transformer_2_attention (MultiHeadAttention)	(None, 4, 256, 192) 148224	['mvit_block_1_transformer_2_LN1_dropout[0][0]', 'mvit_block_1_transformer_2_LN1_dropout[0][0]']
mvit_block_1_transformer_2_add1 (Add)	(None, 4, 256, 192) 0	['mvit_block_1_transformer_2_attention[0][0]', 'mvit_block_1_transformer_2_attention[0][0]']
mvit_block_1_transformer_2_LN2 (LayerNormalization)	(None, 4, 256, 192) 384	['mvit_block_1_transformer_2_add1_dropout[0][0]']
mvit_block_1_transformer_2_ff_0_dense (Dense)	(None, 4, 256, 384) 74112	['mvit_block_1_transformer_2_LN2_dropout[0][0]']
mvit_block_1_transformer_2_ff_0_dropout (Dropout)	(None, 4, 256, 384) 0	['mvit_block_1_transformer_2_ff_0_dropout[0][0]']
mvit_block_1_transformer_2_ff_1_dense (Dense)	(None, 4, 256, 192) 73920	['mvit_block_1_transformer_2_ff_0_dropout[0][0]']
mvit_block_1_transformer_2_ff_1_dropout (Dropout)	(None, 4, 256, 192) 0	['mvit_block_1_transformer_2_ff_1_dropout[0][0]']
mvit_block_1_transformer_2_add1 (Add)	(None, 4, 256, 192) 0	['mvit_block_1_transformer_2_ff_1_dropout[0][0]', 'mvit_block_1_transformer_2_ff_1_dropout[0][0]']
mvit_block_1_transformer_3_LN1 (LayerNormalization)	(None, 4, 256, 192) 384	['mvit_block_1_transformer_2_add1_dropout[0][0]']
mvit_block_1_transformer_3_attention (MultiHeadAttention)	(None, 4, 256, 192) 148224	['mvit_block_1_transformer_3_LN1_dropout[0][0]']

ansformer_3_LN1[ention (MultiHeadAttention)	0][0]', 'mvit_block_1_tr
ansformer_3_LN1[	0][0]']
mvit_block_1_transformer_3_add (None, 4, 256, 192) 0 ansformer_3_atte 1 (Add)	['mvit_block_1_tr ntion[0][0]', 'mvit_block_1_tr
ansformer_2_add2	[0][0]']
mvit_block_1_transformer_3_LN2 (None, 4, 256, 192) 384 ansformer_3_add1 (LayerNormalization)	['mvit_block_1_tr [0][0]']
mvit_block_1_transformer_3_ff_ (None, 4, 256, 384) 74112 ansformer_3_LN2[0_dense (Dense)	['mvit_block_1_tr 0][0]']
mvit_block_1_transformer_3_ff_ (None, 4, 256, 384) 0 ansformer_3_ff_0 0_dropout (Dropout)	['mvit_block_1_tr _dense[0][0]']
mvit_block_1_transformer_3_ff_ (None, 4, 256, 192) 73920 ansformer_3_ff_0 1_dense (Dense)	['mvit_block_1_tr _dropout[0][0]']
mvit_block_1_transformer_3_ff_ (None, 4, 256, 192) 0 ansformer_3_ff_1 1_dropout (Dropout)	['mvit_block_1_tr _dense[0][0]']
mvit_block_1_transformer_3_add (None, 4, 256, 192) 0 ansformer_3_ff_1 2 (Add)	['mvit_block_1_tr _dropout[0][0]', 'mvit_block_1_tr
ansformer_3_add1	[0][0]']
mvit_block_1_fold (Reshape) (None, 32, 32, 192) 0 ansformer_3_add2	['mvit_block_1_tr [0][0]']
mvit_block_1_conv3 (Conv2D) (None, 32, 32, 128) 24576 ld[0][0]']	['mvit_block_1_fo
mvit_block_1_conv3_BN (BatchNo (None, 32, 32, 128) 512 nv3[0][0]'] rmalization)	['mvit_block_1_co
mvit_block_1_conv3_swish (Acti (None, 32, 32, 128) 0 nv3_BN[0][0]'] vation)	['mvit_block_1_co
mvit_block_1_concat (Concatena (None, 32, 32, 256) 0 ject_BN[0][0]', te) nv3_swish[0][0]'	['mv2_block_5_pro 'mvit_block_1_co
]

mvit_block_1_conv4 (Conv2D) ncat[0][0]'	(None, 32, 32, 128)	294912	['mvit_block_1_co
mvit_block_1_conv4_BN (BatchNo nv4[0][0]') rmalization)	(None, 32, 32, 128)	512	['mvit_block_1_co
mvit_block_1_conv4_swish (Acti nv4_BN[0][0]') vation)	(None, 32, 32, 128)	0	['mvit_block_1_co
mv2_block_6__expand (Conv2D) nv4_swish[0][0]'	(None, 32, 32, 640)	81920	['mvit_block_1_co]
mv2_block_6_expand_BN (BatchNo pand[0][0]') rmalization)	(None, 32, 32, 640)	2560	['mv2_block_6__ex
mv2_block_6_expand_swish (Acti and_BN[0][0]') vation)	(None, 32, 32, 640)	0	['mv2_block_6_exp
mv2_block_6_depthwise (Depthwi and_swish[0][0]') seConv2D)	(None, 32, 32, 640)	5760	['mv2_block_6_exp]
mv2_block_6_depthwise_BN (Batc thwise[0][0]') hNormalization)	(None, 32, 32, 640)	2560	['mv2_block_6_dep
mv2_block_6_depthwise_swish (A thwise_BN[0][0]') ctivation)	(None, 32, 32, 640)	0	['mv2_block_6_dep]
mv2_block_6_project (Conv2D) thwise_swish[0][	(None, 32, 32, 160)	102400	['mv2_block_6_dep 0]']
mv2_block_6_project_BN (BatchN ject[0][0]') ormalization)	(None, 32, 32, 160)	640	['mv2_block_6_pro
mvit_block_2_conv1 (Conv2D) ject_BN[0][0]']	(None, 32, 32, 240)	345600	['mv2_block_6_pro
mvit_block_2_conv1_BN (BatchNo nv1[0][0]') rmalization)	(None, 32, 32, 240)	960	['mvit_block_2_co
mvit_block_2_conv1_swish (Acti nv1_BN[0][0]') vation)	(None, 32, 32, 240)	0	['mvit_block_2_co
mvit_block_2_conv2 (Conv2D) nv1_swish[0][0]'	(None, 32, 32, 240)	57600	['mvit_block_2_co]
mvit_block_2_conv2_BN (BatchNo nv2[0][0]') rmalization)	(None, 32, 32, 240)	960	['mvit_block_2_co

mvit_block_2_conv2_swish (Acti nv2_BN[0][0]'] vation)	(None, 32, 32, 240) 0	['mvit_block_2_co
mvit_block_2_unfold (Reshape) nv2_swish[0][0]']	(None, 4, 256, 240) 0	['mvit_block_2_co]
mvit_block_2_transformer_0_LN1 fold[0][0]'] (LayerNormalization)	(None, 4, 256, 240) 480	['mvit_block_2_un fold[0][0]']
mvit_block_2_transformer_0_att ansformer_0_LN1[ention (MultiHeadAttention)	(None, 4, 256, 240) 231360	['mvit_block_2_tr 0][0]', 'mvit_block_2_tr 0][0]']
mvit_block_2_transformer_0_add ansformer_0_atte 1 (Add)	(None, 4, 256, 240) 0	['mvit_block_2_tr ntion[0][0]', 'mvit_block_2_un fold[0][0]']
mvit_block_2_transformer_0_LN2 ansformer_0_add1 (LayerNormalization)	(None, 4, 256, 240) 480	['mvit_block_2_tr 0][0]']
mvit_block_2_transformer_0_ff_ ansformer_0_LN2[0_dense (Dense)	(None, 4, 256, 480) 115680	['mvit_block_2_tr 0][0]']
mvit_block_2_transformer_0_ff_ ansformer_0_ff_0 0_dropout (Dropout)	(None, 4, 256, 480) 0	['mvit_block_2_tr _dense[0][0]']
mvit_block_2_transformer_0_ff_ ansformer_0_ff_0 1_dense (Dense)	(None, 4, 256, 240) 115440	['mvit_block_2_tr _dropout[0][0]']
mvit_block_2_transformer_0_ff_ ansformer_0_ff_1 1_dropout (Dropout)	(None, 4, 256, 240) 0	['mvit_block_2_tr _dense[0][0]']
mvit_block_2_transformer_0_add ansformer_0_ff_1 2 (Add)	(None, 4, 256, 240) 0	['mvit_block_2_tr _dropout[0][0]', 'mvit_block_2_tr 0][0]']
mvit_block_2_transformer_1_LN1 ansformer_0_add2 (LayerNormalization)	(None, 4, 256, 240) 480	['mvit_block_2_tr 0][0]']
mvit_block_2_transformer_1_att ansformer_1_LN1[ention (MultiHeadAttention)	(None, 4, 256, 240) 231360	['mvit_block_2_tr 0][0]', 'mvit_block_2_tr

ansformer_1_LN1[		0][0]']
mvit_block_2_transformer_1_add ansformer_1_atte 1 (Add)	(None, 4, 256, 240) 0	['mvit_block_2_tr ntion[0][0]', 'mvit_block_2_tr
ansformer_0_add2		[0][0]']
mvit_block_2_transformer_1_LN2 ansformer_1_add1 (LayerNormalization)	(None, 4, 256, 240) 480	['mvit_block_2_tr [0][0]']
mvit_block_2_transformer_1_ff_ ansformer_1_LN2[0_dense (Dense)	(None, 4, 256, 480) 115680	['mvit_block_2_tr 0][0]']
mvit_block_2_transformer_1_ff_ ansformer_1_ff_0 0_dropout (Dropout)	(None, 4, 256, 480) 0	['mvit_block_2_tr _dense[0][0]']
mvit_block_2_transformer_1_ff_ ansformer_1_ff_0 1_dense (Dense)	(None, 4, 256, 240) 115440	['mvit_block_2_tr _dropout[0][0]']
mvit_block_2_transformer_1_ff_ ansformer_1_ff_1 1_dropout (Dropout)	(None, 4, 256, 240) 0	['mvit_block_2_tr _dense[0][0]']
mvit_block_2_transformer_1_add ansformer_1_ff_1 2 (Add)	(None, 4, 256, 240) 0	['mvit_block_2_tr _dropout[0][0]', 'mvit_block_2_tr
ansformer_1_add1		[0][0]']
mvit_block_2_transformer_2_LN1 ansformer_1_add2 (LayerNormalization)	(None, 4, 256, 240) 480	['mvit_block_2_tr [0][0]']
mvit_block_2_transformer_2_att ansformer_2_LN1[ention (MultiHeadAttention)	(None, 4, 256, 240) 231360	['mvit_block_2_tr 0][0]', 'mvit_block_2_tr
ansformer_2_LN1[		0][0]']
mvit_block_2_transformer_2_add ansformer_2_atte 1 (Add)	(None, 4, 256, 240) 0	['mvit_block_2_tr ntion[0][0]', 'mvit_block_2_tr
ansformer_1_add2		[0][0]']
mvit_block_2_transformer_2_LN2 ansformer_2_add1 (LayerNormalization)	(None, 4, 256, 240) 480	['mvit_block_2_tr [0][0]']
mvit_block_2_transformer_2_ff_ ansformer_2_LN2[	(None, 4, 256, 480) 115680	['mvit_block_2_tr

0_dense (Dense)			0][0]']
mvit_block_2_transformer_2_ff_0 ansformer_2_ff_0 0_dropout (Dropout)	(None, 4, 256, 480) 0		['mvit_block_2_tr _dense[0][0]']
mvit_block_2_transformer_2_ff_0 ansformer_2_ff_0 1_dense (Dense)	(None, 4, 256, 240) 115440		['mvit_block_2_tr _dropout[0][0]']
mvit_block_2_transformer_2_ff_1 ansformer_2_ff_1 1_dropout (Dropout)	(None, 4, 256, 240) 0		['mvit_block_2_tr _dense[0][0]']
mvit_block_2_transformer_2_add ansformer_2_ff_1 2 (Add)	(None, 4, 256, 240) 0		['mvit_block_2_tr _dropout[0][0]', 'mvit_block_2_tr
ansformer_2_add1			[0][0]']
mvit_block_2_fold (Reshape) ansformer_2_add2	(None, 32, 32, 240) 0		['mvit_block_2_tr [0][0]']
mvit_block_2_conv3 (Conv2D) ld[0][0]']	(None, 32, 32, 160) 38400		['mvit_block_2_fo
mvit_block_2_conv3_BN (BatchNo nv3[0][0]'] rmalization)	(None, 32, 32, 160) 640		['mvit_block_2_co
mvit_block_2_conv3_swish (Acti nv3_BN[0][0]'] vation)	(None, 32, 32, 160) 0		['mvit_block_2_co
mvit_block_2_concat (Concatena ject_BN[0][0]'], te) nv3_swish[0][0]'	(None, 32, 32, 320) 0		['mv2_block_6_pro 'mvit_block_2_co]
mvit_block_2_conv4 (Conv2D) ncat[0][0]']	(None, 32, 32, 160) 460800		['mvit_block_2_co
mvit_block_2_conv4_BN (BatchNo nv4[0][0]'] rmalization)	(None, 32, 32, 160) 640		['mvit_block_2_co
mvit_block_2_conv4_swish (Acti nv4_BN[0][0]'] vation)	(None, 32, 32, 160) 0		['mvit_block_2_co
1x1_conv (Conv2D) nv4_swish[0][0]'	(None, 32, 32, 640) 102400		['mvit_block_2_co]
1x1_conv_BN (BatchNormalizatio [0]'] n)	(None, 32, 32, 640) 2560		['1x1_conv[0]

1x1_conv_swish (Activation)	(None, 32, 32, 640)	0	['1x1_conv_BN[0][0]']
aspp1_depthwise (DepthwiseConv2D)	(None, 32, 32, 640)	5760	['1x1_conv_swish[0][0]']
aspp2_depthwise (DepthwiseConv2D)	(None, 32, 32, 640)	5760	['1x1_conv_swish[0][0]']
aspp3_depthwise (DepthwiseConv2D)	(None, 32, 32, 640)	5760	['1x1_conv_swish[0][0]']
average_pooling2d (AveragePooling2D)	(None, 1, 1, 640)	0	['1x1_conv_swish[0][0]']
aspp1_depthwise_BN (BatchNormalization)	(None, 32, 32, 640)	2560	['aspp1_depthwise[0][0]']
aspp2_depthwise_BN (BatchNormalization)	(None, 32, 32, 640)	2560	['aspp2_depthwise[0][0]']
aspp3_depthwise_BN (BatchNormalization)	(None, 32, 32, 640)	2560	['aspp3_depthwise[0][0]']
image_pooling2d[0][0] (Conv2D)	(None, 1, 1, 256)	163840	['average_pooling2d[0][0]']
re_lu_1_BN[0][0] (ReLU)	(None, 32, 32, 640)	0	['aspp1_depthwise[0][0]']
re_lu_3_BN[0][0] (ReLU)	(None, 32, 32, 640)	0	['aspp2_depthwise[0][0]']
re_lu_5_BN[0][0] (ReLU)	(None, 32, 32, 640)	0	['aspp3_depthwise[0][0]']
image_pooling_BN[0][0] (BatchNormalization)	(None, 1, 1, 256)	1024	['image_pooling[0][0]']
aspp0 (Conv2D)	(None, 32, 32, 256)	163840	['1x1_conv_swish[0][0]']
aspp1_pointwise (Conv2D)	(None, 32, 32, 256)	163840	['re_lu_1[0][0]']
aspp2_pointwise (Conv2D)	(None, 32, 32, 256)	163840	['re_lu_3[0][0]']
aspp3_pointwise (Conv2D)	(None, 32, 32, 256)	163840	['re_lu_5[0][0]']
re_lu (ReLU)	(None, 1, 1, 256)	0	['image_pooling_BN[0][0]']
aspp0_BN (BatchNormalization)	(None, 32, 32, 256)	1024	['aspp0[0][0]']

aspp1_pointwise_BN (BatchNormalization)	(None, 32, 32, 256)	1024	['aspp1_pointwise[0][0]']
aspp2_pointwise_BN (BatchNormalization)	(None, 32, 32, 256)	1024	['aspp2_pointwise[0][0]']
aspp3_pointwise_BN (BatchNormalization)	(None, 32, 32, 256)	1024	['aspp3_pointwise[0][0]']
aspp_resize (Lambda)	(None, 32, 32, 256)	0	['re_lu[0][0]']
aspp0_activation (ReLU)	(None, 32, 32, 256)	0	['aspp0_BN[0]']
re_lu_2 (ReLU)	(None, 32, 32, 256)	0	['aspp1_pointwise_BN[0][0]']
re_lu_4 (ReLU)	(None, 32, 32, 256)	0	['aspp2_pointwise_BN[0][0]']
re_lu_6 (ReLU)	(None, 32, 32, 256)	0	['aspp3_pointwise_BN[0][0]']
concatenate (Concatenate)	(None, 32, 32, 1280)	0	['aspp_resize[0]', 'aspp0_activation[0][0]', 're_lu_2[0][0]', 're_lu_4[0][0]', 're_lu_6[0][0]']
concat_projection (Conv2D)	(None, 32, 32, 256)	327680	['concatenate[0]']
concat_projection_BN (BatchNormalization)	(None, 32, 32, 256)	1024	['concat_projection[0][0]']
re_lu_7 (ReLU)	(None, 32, 32, 256)	0	['concat_projection_BN[0][0]']
feature_projection0 (Conv2D)	(None, 128, 128, 48)	3072	['mv2_block_3_add[0][0]']
dropout (Dropout)	(None, 32, 32, 256)	0	['re_lu_7[0][0]']
feature_projection0_BN (BatchNormalization)	(None, 128, 128, 48)	192	['feature_projection0[0][0]']
decoder_resize (Lambda)	(None, 128, 128, 256)	0	['dropout[0][0]']
re_lu_8 (ReLU)	(None, 128, 128, 48)	0	['feature_projection0_BN[0][0]']

concatenate_1 (Concatenate) [0][0]',	(None, 128, 128, 30 0 4)	['decoder_resize 're_lu_8[0][0]']
decoder_conv0_depthwise (Depth [0][0]') wiseConv2D)	(None, 128, 128, 30 2736 4)	['concatenate_1
decoder_conv0_depthwise_BN (Ba epthwise[0][0]') tchNormalization)	(None, 128, 128, 30 1216 4)	['decoder_conv0_d
re_lu_9 (ReLU) epthwise_BN[0][0]	(None, 128, 128, 30 0 4)	['decoder_conv0_d ']']
decoder_conv0_pointwise (Conv2 D)	(None, 128, 128, 25 77824 6)	['re_lu_9[0][0]']
decoder_conv0_pointwise_BN (Ba ointwise[0][0]') tchNormalization)	(None, 128, 128, 25 1024 6)	['decoder_conv0_p
re_lu_10 (ReLU) ointwise_BN[0][0]	(None, 128, 128, 25 0 6)	['decoder_conv0_p ']']
decoder_conv1_depthwise (Depth [0]') wiseConv2D)	(None, 128, 128, 25 2304 6)	['re_lu_10[0]
decoder_conv1_depthwise_BN (Ba epthwise[0][0]') tchNormalization)	(None, 128, 128, 25 1024 6)	['decoder_conv1_d
re_lu_11 (ReLU) epthwise_BN[0][0]	(None, 128, 128, 25 0 6)	['decoder_conv1_d ']']
decoder_conv1_pointwise (Conv2 [0]') D)	(None, 128, 128, 25 65536 6)	['re_lu_11[0]
decoder_conv1_pointwise_BN (Ba ointwise[0][0]') tchNormalization)	(None, 128, 128, 25 1024 6)	['decoder_conv1_p
re_lu_12 (ReLU) ointwise_BN[0][0]	(None, 128, 128, 25 0 6)	['decoder_conv1_p ']']
logits_semantic (Conv2D) [0]')]	(None, 128, 128, 1) 257	['re_lu_12[0]
pred_resize (Lambda) [0][0]')]	(None, 512, 512, 1) 0	['logits_semantic
reshape (Reshape) [0]')]	(None, 512, 512, 1) 0	['pred_resize[0]
tf.math.sigmoid (TFOpLambda)	(None, 512, 512, 1) 0	['reshape[0][0]']

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Total params: 6,624,689
Trainable params: 6,600,721
Non-trainable params: 23,968
