

```
ssh://su_j615@168.188.125.48:22/home/su_j615/.conda/envs/pwr_env/bin/python3 -u /tmp/pycharm_project_368/UnetModel.py
```

Using TensorFlow backend.

W A R N I N G : t e n s o r f l o w : F r o m
/home/su_j615/.conda/envs/pwr_env/lib/python3.5/site-packages/tensorflow/python/keras/initializers.py:104: calling
VarianceScaling.__init__ (from tensorflow.python.ops.init_ops) with distribution=normal is deprecated and will be removed in a
future version.

Instructions for updating:

`normal` is a deprecated alias for `truncated_normal`

Layer (type)	Output Shape	Param #	Connected to
input_1 (InputLayer)	(None, 288, 480, 4)	0	
conv2d (Conv2D)	(None, 288, 480, 64)	2368	input_1[0][0]
conv2d_1 (Conv2D)	(None, 288, 480, 64)	36928	conv2d[0][0]
max_pooling2d (MaxPooling2D)	(None, 144, 240, 64)	0	conv2d_1[0][0]
conv2d_2 (Conv2D)	(None, 144, 240, 128)	73856	max_pooling2d[0][0]
conv2d_3 (Conv2D)	(None, 144, 240, 128)	147584	conv2d_2[0][0]
max_pooling2d_1 (MaxPooling2D)	(None, 72, 120, 128)	0	conv2d_3[0][0]
conv2d_4 (Conv2D)	(None, 72, 120, 256)	295168	max_pooling2d_1[0][0]

conv2d_5 (Conv2D)	(None, 72, 120, 256)	590080	conv2d_4[0][0]
max_pooling2d_2 (MaxPooling2D)	(None, 36, 60, 256)	0	conv2d_5[0][0]
conv2d_6 (Conv2D)	(None, 36, 60, 512)	1180160	max_pooling2d_2[0][0]
conv2d_7 (Conv2D)	(None, 36, 60, 512)	2359808	conv2d_6[0][0]
dropout (Dropout)	(None, 36, 60, 512)	0	conv2d_7[0][0]
max_pooling2d_3 (MaxPooling2D)	(None, 18, 30, 512)	0	dropout[0][0]
conv2d_8 (Conv2D)	(None, 18, 30, 1024)	4719616	max_pooling2d_3[0][0]
conv2d_9 (Conv2D)	(None, 18, 30, 1024)	9438208	conv2d_8[0][0]
dropout_1 (Dropout)	(None, 18, 30, 1024)	0	conv2d_9[0][0]
up_sampling2d (UpSampling2D)	(None, 36, 60, 1024)	0	dropout_1[0][0]
conv2d_10 (Conv2D)	(None, 36, 60, 512)	2097664	up_sampling2d[0][0]
concatenate (Concatenate)	(None, 36, 60, 1024)	0	dropout[0][0] conv2d_10[0][0]

conv2d_11 (Conv2D)	(None, 36, 60, 512)	4719104	concatenate[0][0]
conv2d_12 (Conv2D)	(None, 36, 60, 512)	2359808	conv2d_11[0][0]
up_sampling2d_1 (UpSampling2D)	(None, 72, 120, 512)	0	conv2d_12[0][0]
conv2d_13 (Conv2D)	(None, 72, 120, 256)	524544	up_sampling2d_1[0][0]
concatenate_1 (Concatenate)	(None, 72, 120, 512)	0	conv2d_5[0][0] conv2d_13[0][0]
conv2d_14 (Conv2D)	(None, 72, 120, 256)	1179904	concatenate_1[0][0]
conv2d_15 (Conv2D)	(None, 72, 120, 256)	590080	conv2d_14[0][0]
up_sampling2d_2 (UpSampling2D)	(None, 144, 240, 256)	0	conv2d_15[0][0]
conv2d_16 (Conv2D)	(None, 144, 240, 128)	131200	up_sampling2d_2[0][0]
concatenate_2 (Concatenate)	(None, 144, 240, 256)	0	conv2d_3[0][0] conv2d_16[0][0]
conv2d_17 (Conv2D)	(None, 144, 240, 128)	295040	concatenate_2[0][0]
conv2d_18 (Conv2D)	(None, 144, 240, 128)	147584	conv2d_17[0][0]

up_sampling2d_3 (UpSampling2D) (None, 288, 480, 128 0 conv2d_18[0][0]

conv2d_19 (Conv2D) (None, 288, 480, 64) 32832 up_sampling2d_3[0][0]

concatenate_3 (Concatenate) (None, 288, 480, 128 0 conv2d_1[0][0]
conv2d_19[0][0]

conv2d_20 (Conv2D) (None, 288, 480, 64) 73792 concatenate_3[0][0]

conv2d_21 (Conv2D) (None, 288, 480, 64) 36928 conv2d_20[0][0]

conv2d_22 (Conv2D) (None, 288, 480, 2) 1154 conv2d_21[0][0]

conv2d_23 (Conv2D) (None, 288, 480, 1) 3 conv2d_22[0][0]
=====

Total params: 31,033,413

Trainable params: 31,033,413

Non-trainable params: 0

Train on 1760 samples, validate on 442 samples

Epoch 1/50

2020-07-02 16:54:25.544110: I tensorflow/core/platform/cpu_feature_guard.cc:141] Your CPU supports instructions that this TensorFlow binary was not compiled to use: SSE4.1 SSE4.2 AVX AVX2 FMA

2020-07-02 16:54:25.813584: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1405] Found device 0 with properties:
name: Tesla P100-PCIE-16GB major: 6 minor: 0 memoryClockRate(GHz): 1.3285
pciBusID: 0000:0c:00.0

totalMemory: 15.90GiB freeMemory: 15.39GiB

2020-07-02 16:54:25.813646: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1484] Adding visible gpu devices: 0

2020-07-02 16:54:26.403645: I tensorflow/core/common_runtime/gpu/gpu_device.cc:965] Device interconnect StreamExecutor with strength 1 edge matrix:

2020-07-02 16:54:26.403706: I tensorflow/core/common_runtime/gpu/gpu_device.cc:971] 0

2020-07-02 16:54:26.403721: I tensorflow/core/common_runtime/gpu/gpu_device.cc:984] 0: N

2020-07-02 16:54:26.404001: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1097] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:0 with 14915 MB memory) -> physical GPU (device: 0, name: Tesla P100-PCIE-16GB, pci bus id: 0000:0c:00.0, compute capability: 6.0)

2020-07-02 16:54:35.560310: W tensorflow/core/common_runtime/bfc_allocator.cc:219] Allocator (GPU_0_bfc) ran out of memory trying to allocate 3.56GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.

2020-07-02 16:54:35.812366: W tensorflow/core/common_runtime/bfc_allocator.cc:219] Allocator (GPU_0_bfc) ran out of memory trying to allocate 3.56GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.

1760/1760 [=====] - 148s 84ms/step - loss: 0.2371 - acc: 0.9194 - val_loss: 0.2085 - val_acc: 0.9070
Epoch 2/50
1760/1760 [=====] - 134s 76ms/step - loss: 0.1592 - acc: 0.9362 - val_loss: 0.1861 - val_acc: 0.9221
Epoch 3/50
1760/1760 [=====] - 134s 76ms/step - loss: 0.1278 - acc: 0.9465 - val_loss: 0.1900 - val_acc: 0.9255
Epoch 4/50
1760/1760 [=====] - 134s 76ms/step - loss: 0.0954 - acc: 0.9600 - val_loss: 0.1995 - val_acc: 0.9273
Epoch 5/50
1760/1760 [=====] - 134s 76ms/step - loss: 0.0932 - acc: 0.9612 - val_loss: 0.2442 - val_acc: 0.9075
Epoch 6/50
1760/1760 [=====] - 134s 76ms/step - loss: 0.0592 - acc: 0.9731 - val_loss: 0.2685 - val_acc: 0.9023
Epoch 7/50
1760/1760 [=====] - 134s 76ms/step - loss: 0.0424 - acc: 0.9789 - val_loss: 0.2713 - val_acc: 0.9273
Epoch 8/50
1760/1760 [=====] - 134s 76ms/step - loss: 0.0353 - acc: 0.9815 - val_loss: 0.3583 - val_acc: 0.9064
Epoch 9/50
1760/1760 [=====] - 133s 76ms/step - loss: 0.0309 - acc: 0.9831 - val_loss: 0.3445 - val_acc: 0.9111
Epoch 10/50
1760/1760 [=====] - 133s 76ms/step - loss: 0.0251 - acc: 0.9850 - val_loss: 0.2908 - val_acc: 0.9218
Epoch 11/50
1760/1760 [=====] - 133s 76ms/step - loss: 0.0987 - acc: 0.9587 - val_loss: 0.2355 - val_acc: 0.9254
Epoch 12/50
1760/1760 [=====] - 133s 75ms/step - loss: 0.0431 - acc: 0.9790 - val_loss: 0.3457 - val_acc: 0.9209
Epoch 13/50
1760/1760 [=====] - 133s 76ms/step - loss: 0.0252 - acc: 0.9851 - val_loss: 0.4158 - val_acc: 0.9260

Epoch 14/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0208 - acc: 0.9866 - val_loss: 0.4063 - val_acc: 0.9226

Epoch 15/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0186 - acc: 0.9873 - val_loss: 0.4365 - val_acc: 0.9220

Epoch 16/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0172 - acc: 0.9878 - val_loss: 0.4392 - val_acc: 0.9111

Epoch 17/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0162 - acc: 0.9881 - val_loss: 0.4746 - val_acc: 0.9136

Epoch 18/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0158 - acc: 0.9883 - val_loss: 0.4828 - val_acc: 0.9086

Epoch 19/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0146 - acc: 0.9887 - val_loss: 0.5408 - val_acc: 0.9172

Epoch 20/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0150 - acc: 0.9886 - val_loss: 0.4608 - val_acc: 0.9173

Epoch 21/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0141 - acc: 0.9889 - val_loss: 0.5188 - val_acc: 0.9210

Epoch 22/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0133 - acc: 0.9891 - val_loss: 0.5327 - val_acc: 0.9164

Epoch 23/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0130 - acc: 0.9892 - val_loss: 0.5183 - val_acc: 0.9232

Epoch 24/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0124 - acc: 0.9894 - val_loss: 0.5296 - val_acc: 0.9169

Epoch 25/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0121 - acc: 0.9895 - val_loss: 0.5387 - val_acc: 0.9237

Epoch 26/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0125 - acc: 0.9894 - val_loss: 0.5395 - val_acc: 0.9201

Epoch 27/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0120 - acc: 0.9895 - val_loss: 0.5394 - val_acc: 0.9191

Epoch 28/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0115 - acc: 0.9897 - val_loss: 0.5612 - val_acc: 0.9106

Epoch 29/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0115 - acc: 0.9897 - val_loss: 0.5076 - val_acc: 0.9183

Epoch 30/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0113 - acc: 0.9898 - val_loss: 0.5324 - val_acc: 0.9172

Epoch 31/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.1219 - acc: 0.9535 - val_loss: 0.2254 - val_acc: 0.9227

Epoch 32/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.1152 - acc: 0.9527 - val_loss: 0.2017 - val_acc: 0.9301

Epoch 33/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0569 - acc: 0.9739 - val_loss: 0.2782 - val_acc: 0.8982

Epoch 34/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0346 - acc: 0.9815 - val_loss: 0.3075 - val_acc: 0.9125

Epoch 35/50

1760/1760 [=====] - 134s 76ms/step - loss: 0.0247 - acc: 0.9852 - val_loss: 0.3295 - val_acc: 0.9147

Epoch 36/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0194 - acc: 0.9870 - val_loss: 0.3733 - val_acc: 0.9221

Epoch 37/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0173 - acc: 0.9878 - val_loss: 0.4749 - val_acc: 0.8888

Epoch 38/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0168 - acc: 0.9880 - val_loss: 0.4315 - val_acc: 0.9082

Epoch 39/50

1760/1760 [=====] - 134s 76ms/step - loss: 0.0149 - acc: 0.9886 - val_loss: 0.4680 - val_acc: 0.9077

Epoch 40/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0140 - acc: 0.9889 - val_loss: 0.4772 - val_acc: 0.9134

Epoch 41/50

1760/1760 [=====] - 134s 76ms/step - loss: 0.0133 - acc: 0.9891 - val_loss: 0.5062 - val_acc: 0.9116

Epoch 42/50

1760/1760 [=====] - 134s 76ms/step - loss: 0.0128 - acc: 0.9893 - val_loss: 0.4935 - val_acc: 0.9119

Epoch 43/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0122 - acc: 0.9895 - val_loss: 0.5045 - val_acc: 0.9157

Epoch 44/50

1760/1760 [=====] - 134s 76ms/step - loss: 0.0120 - acc: 0.9895 - val_loss: 0.5401 - val_acc: 0.9103

Epoch 45/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0117 - acc: 0.9896 - val_loss: 0.5489 - val_acc: 0.9030

Epoch 46/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0115 - acc: 0.9897 - val_loss: 0.5529 - val_acc: 0.9073

Epoch 47/50

1760/1760 [=====] - 134s 76ms/step - loss: 0.0113 - acc: 0.9897 - val_loss: 0.5593 - val_acc: 0.9055

Epoch 48/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0113 - acc: 0.9897 - val_loss: 0.5356 - val_acc: 0.9186

Epoch 49/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0111 - acc: 0.9898 - val_loss: 0.5360 - val_acc: 0.9068

Epoch 50/50

1760/1760 [=====] - 133s 76ms/step - loss: 0.0125 - acc: 0.9894 - val_loss: 0.5223 - val_acc: 0.9124

Process finished with exit code 0