➜ ultrasound-nerve-segmentation git:(master) ✗ python3 data.py

/home/nizam/.local/lib/python3.8/site-packages/skimage/io/manage\_plugins.py:23: UserWarning: Your installed pillow version is < 7.1.0. Several security issues (CVE-2020-11538, CVE-2020-10379, CVE-2020-10994, CVE-2020-10177) have been fixed in pillow 7.1.0 or higher. We recommend to upgrade this library.

from .collection import imread\_collection\_wrapper

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Creating training images...

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Done: 0/5635 images

Done: 100/5635 images

Done: 200/5635 images

Done: 300/5635 images

Done: 400/5635 images

Done: 500/5635 images

Done: 600/5635 images

Done: 700/5635 images

Done: 800/5635 images

Done: 900/5635 images

Done: 1000/5635 images

Done: 1100/5635 images

Done: 1200/5635 images

Done: 1300/5635 images

Done: 1400/5635 images

Done: 1500/5635 images

Done: 1600/5635 images

Done: 1700/5635 images

Done: 1800/5635 images

Done: 1900/5635 images

Done: 2000/5635 images

Done: 2100/5635 images

Done: 2200/5635 images

Done: 2300/5635 images

Done: 2400/5635 images

Done: 2500/5635 images

Done: 2600/5635 images

Done: 2700/5635 images

Done: 2800/5635 images

Done: 2900/5635 images

Done: 3000/5635 images

Done: 3100/5635 images

Done: 3200/5635 images

Done: 3300/5635 images

Done: 3400/5635 images

Done: 3500/5635 images

Done: 3600/5635 images

Done: 3700/5635 images

Done: 3800/5635 images

Done: 3900/5635 images

Done: 4000/5635 images

Done: 4100/5635 images

Done: 4200/5635 images

Done: 4300/5635 images

Done: 4400/5635 images

Done: 4500/5635 images

Done: 4600/5635 images

Done: 4700/5635 images

Done: 4800/5635 images

Done: 4900/5635 images

Done: 5000/5635 images

Done: 5100/5635 images

Done: 5200/5635 images

Done: 5300/5635 images

Done: 5400/5635 images

Done: 5500/5635 images

Done: 5600/5635 images

Loading done.

Saving to .npy files done.

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Creating test images...

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Done: 0/5508 images

Done: 100/5508 images

Done: 200/5508 images

Done: 300/5508 images

Done: 400/5508 images

Done: 500/5508 images

Done: 600/5508 images

Done: 700/5508 images

Done: 800/5508 images

Done: 900/5508 images

Done: 1000/5508 images

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Done: 1500/5508 images

Done: 1600/5508 images

Done: 1700/5508 images

Done: 1800/5508 images

Done: 1900/5508 images

Done: 2000/5508 images

Done: 2100/5508 images

Done: 2200/5508 images

Done: 2300/5508 images

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Done: 4500/5508 images

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Done: 4700/5508 images

Done: 4800/5508 images

Done: 4900/5508 images

Done: 5000/5508 images

Done: 5100/5508 images

Done: 5200/5508 images

Done: 5300/5508 images

Done: 5400/5508 images

Done: 5500/5508 images

Loading done.

Saving to .npy files done.

➜ ultrasound-nerve-segmentation git:(master) ✗ python3 train.py

/home/nizam/.local/lib/python3.8/site-packages/skimage/io/manage\_plugins.py:23: UserWarning: Your installed pillow version is < 7.1.0. Several security issues (CVE-2020-11538, CVE-2020-10379, CVE-2020-10994, CVE-2020-10177) have been fixed in pillow 7.1.0 or higher. We recommend to upgrade this library.

from .collection import imread\_collection\_wrapper

2021-04-29 09:11:37.952018: W tensorflow/stream\_executor/platform/default/dso\_loader.cc:60] Could not load dynamic library 'libcudart.so.11.0'; dlerror: libcudart.so.11.0: cannot open shared object file: No such file or directory

2021-04-29 09:11:37.952063: I tensorflow/stream\_executor/cuda/cudart\_stub.cc:29] Ignore above cudart dlerror if you do not have a GPU set up on your machine.

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Loading and preprocessing train data...

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Creating and compiling model...

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2021-04-29 09:15:14.109594: I tensorflow/compiler/jit/xla\_cpu\_device.cc:41] Not creating XLA devices, tf\_xla\_enable\_xla\_devices not set

2021-04-29 09:15:14.559297: W tensorflow/stream\_executor/platform/default/dso\_loader.cc:60] Could not load dynamic library 'libcuda.so.1'; dlerror: libcuda.so.1: cannot open shared object file: No such file or directory

2021-04-29 09:15:14.573100: W tensorflow/stream\_executor/cuda/cuda\_driver.cc:326] failed call to cuInit: UNKNOWN ERROR (303)

2021-04-29 09:15:14.616447: I tensorflow/stream\_executor/cuda/.cc:156] kernel driver does not appear to be running on this host (nizam-Latitude-E6430): /proc/driver/nvidia/version does not exist

2021-04-29 09:15:14.668275: I tensorflow/compiler/jit/xla\_gpu\_device.cc:99] Not creating XLA devices, tf\_xla\_enable\_xla\_devices not set

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Fitting model...

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2021-04-29 09:15:18.486315: I tensorflow/compiler/mlir/mlir\_graph\_optimization\_pass.cc:116] None of the MLIR optimization passes are enabled (registered 2)

2021-04-29 09:15:18.749157: I tensorflow/core/platform/profile\_utils/cpu\_utils.cc:112] CPU Frequency: 2691150000 Hz

Epoch 1/20

141/141 [==============================] - 3101s 22s/step - loss: -0.0250 - dice\_coef: 0.0250 - val\_loss: -0.0196 - val\_dice\_coef: 0.0197

Epoch 2/20

141/141 [==============================] - 3088s 22s/step - loss: -0.0268 - dice\_coef: 0.0268 - val\_loss: -0.0310 - val\_dice\_coef: 0.0312

Epoch 3/20

141/141 [==============================] - 1207s 9s/step - loss: -0.1259 - dice\_coef: 0.1259 - val\_loss: -0.1747 - val\_dice\_coef: 0.1768

Epoch 4/20

141/141 [==============================] - 1307s 9s/step - loss: -0.2763 - dice\_coef: 0.2763 - val\_loss: -0.1607 - val\_dice\_coef: 0.1658

Epoch 5/20

141/141 [==============================] - 1447s 10s/step - loss: -0.3342 - dice\_coef: 0.3342 - val\_loss: -0.2378 - val\_dice\_coef: 0.2424

Epoch 6/20

141/141 [==============================] - 1408s 10s/step - loss: -0.3618 - dice\_coef: 0.3618 - val\_loss: -0.2565 - val\_dice\_coef: 0.2634

Epoch 7/20

141/141 [==============================] - 1590s 11s/step - loss: -0.3940 - dice\_coef: 0.3940 - val\_loss: -0.2546 - val\_dice\_coef: 0.2623

Epoch 8/20

141/141 [==============================] - 1470s 10s/step - loss: -0.4159 - dice\_coef: 0.4159 - val\_loss: -0.2551 - val\_dice\_coef: 0.2629

Epoch 9/20

141/141 [==============================] - 1705s 12s/step - loss: -0.4312 - dice\_coef: 0.4312 - val\_loss: -0.2835 - val\_dice\_coef: 0.2900

Epoch 10/20

141/141 [==============================] - 1999s 14s/step - loss: -0.4654 - dice\_coef: 0.4654 - val\_loss: -0.3423 - val\_dice\_coef: 0.3479

Epoch 11/20

141/141 [==============================] - 1459s 10s/step - loss: -0.4710 - dice\_coef: 0.4710 - val\_loss: -0.3294 - val\_dice\_coef: 0.3351

Epoch 12/20

141/141 [==============================] - 1429s 10s/step - loss: -0.4762 - dice\_coef: 0.4762 - val\_loss: -0.3499 - val\_dice\_coef: 0.3536

Epoch 13/20

141/141 [==============================] - 1328s 9s/step - loss: -0.4807 - dice\_coef: 0.4807 - val\_loss: -0.3592 - val\_dice\_coef: 0.3646

Epoch 14/20

141/141 [==============================] - 1377s 10s/step - loss: -0.4958 - dice\_coef: 0.4958 - val\_loss: -0.3845 - val\_dice\_coef: 0.3893

Epoch 15/20

141/141 [==============================] - 1470s 10s/step - loss: -0.5172 - dice\_coef: 0.5172 - val\_loss: -0.3720 - val\_dice\_coef: 0.3766

Epoch 16/20

141/141 [==============================] - 1570s 11s/step - loss: -0.5136 - dice\_coef: 0.5136 - val\_loss: -0.3944 - val\_dice\_coef: 0.3988

Epoch 17/20

141/141 [==============================] - 1663s 12s/step - loss: -0.5412 - dice\_coef: 0.5412 - val\_loss: -0.3825 - val\_dice\_coef: 0.3868

Epoch 18/20

141/141 [==============================] - 1717s 12s/step - loss: -0.5436 - dice\_coef: 0.5436 - val\_loss: -0.3975 - val\_dice\_coef: 0.4013

Epoch 19/20

141/141 [==============================] - 1645s 12s/step - loss: -0.5472 - dice\_coef: 0.5472 - val\_loss: -0.3939 - val\_dice\_coef: 0.3984

Epoch 20/20

141/141 [==============================] - 1476s 10s/step - loss: -0.5616 - dice\_coef: 0.5616 - val\_loss: -0.3708 - val\_dice\_coef: 0.3741

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Loading and preprocessing test data...'

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Loading saved weights...

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Predicting masks on test data...

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173/173 [==============================] - 461s 3s/step

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Saving predicted masks to files...

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train.py:150: UserWarning: preds/100\_pred.png is a low contrast image

imsave(os.path.join(pred\_dir, str(image\_id) + '\_pred.png'), image)

train.py:150: UserWarning: preds/1000\_pred.png is a low contrast image

imsave(os.path.join(pred\_dir, str(image\_id) + '\_pred.png'), image)

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train.py:150: UserWarning: preds/996\_pred.png is a low contrast image

imsave(os.path.join(pred\_dir, str(image\_id) + '\_pred.png'), image)

train.py:150: UserWarning: preds/997\_pred.png is a low contrast image

imsave(os.path.join(pred\_dir, str(image\_id) + '\_pred.png'), image)

➜ ultrasound-nerve-segmentation git:(master) ✗ python3 summary.py

/home/nizam/.local/lib/python3.8/site-packages/skimage/io/manage\_plugins.py:23: UserWarning: Your installed pillow version is < 7.1.0. Several security issues (CVE-2020-11538, CVE-2020-10379, CVE-2020-10994, CVE-2020-10177) have been fixed in pillow 7.1.0 or higher. We recommend to upgrade this library.

from .collection import imread\_collection\_wrapper

2021-05-14 15:55:57.997813: W tensorflow/stream\_executor/platform/default/dso\_loader.cc:60] Could not load dynamic library 'libcudart.so.11.0'; dlerror: libcudart.so.11.0: cannot open shared object file: No such file or directory

2021-05-14 15:55:57.997862: I tensorflow/stream\_executor/cuda/cudart\_stub.cc:29] Ignore above cudart dlerror if you do not have a GPU set up on your machine.

2021-05-14 15:56:07.624063: I tensorflow/compiler/jit/xla\_cpu\_device.cc:41] Not creating XLA devices, tf\_xla\_enable\_xla\_devices not set

2021-05-14 15:56:07.669783: W tensorflow/stream\_executor/platform/default/dso\_loader.cc:60] Could not load dynamic library 'libcuda.so.1'; dlerror: libcuda.so.1: cannot open shared object file: No such file or directory

2021-05-14 15:56:07.669826: W tensorflow/stream\_executor/cuda/cuda\_driver.cc:326] failed call to cuInit: UNKNOWN ERROR (303)

2021-05-14 15:56:07.669870: I tensorflow/stream\_executor/cuda/cuda\_diagnostics.cc:156] kernel driver does not appear to be running on this host (nizam-Latitude-E6430): /proc/driver/nvidia/version does not exist

2021-05-14 15:56:07.677041: I tensorflow/compiler/jit/xla\_gpu\_device.cc:99] Not creating XLA devices, tf\_xla\_enable\_xla\_devices not set

Layer (type) Output Shape Param # Connected to

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

input\_1 (InputLayer) [(None, 96, 96, 1)] 0

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

conv2d (Conv2D) (None, 96, 96, 32) 320 input\_1[0][0]

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conv2d\_1 (Conv2D) (None, 96, 96, 32) 9248 conv2d[0][0]

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max\_pooling2d (MaxPooling2D) (None, 48, 48, 32) 0 conv2d\_1[0][0]

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conv2d\_2 (Conv2D) (None, 48, 48, 64) 18496 max\_pooling2d[0][0]

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conv2d\_3 (Conv2D) (None, 48, 48, 64) 36928 conv2d\_2[0][0]

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max\_pooling2d\_1 (MaxPooling2D) (None, 24, 24, 64) 0 conv2d\_3[0][0]

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conv2d\_4 (Conv2D) (None, 24, 24, 128) 73856 max\_pooling2d\_1[0][0]

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conv2d\_5 (Conv2D) (None, 24, 24, 128) 147584 conv2d\_4[0][0]

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max\_pooling2d\_2 (MaxPooling2D) (None, 12, 12, 128) 0 conv2d\_5[0][0]

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conv2d\_6 (Conv2D) (None, 12, 12, 256) 295168 max\_pooling2d\_2[0][0]

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conv2d\_7 (Conv2D) (None, 12, 12, 256) 590080 conv2d\_6[0][0]

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max\_pooling2d\_3 (MaxPooling2D) (None, 6, 6, 256) 0 conv2d\_7[0][0]

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conv2d\_8 (Conv2D) (None, 6, 6, 512) 1180160 max\_pooling2d\_3[0][0]

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conv2d\_9 (Conv2D) (None, 6, 6, 512) 2359808 conv2d\_8[0][0]

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conv2d\_transpose (Conv2DTranspo (None, 12, 12, 256) 524544 conv2d\_9[0][0]

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concatenate (Concatenate) (None, 12, 12, 512) 0 conv2d\_transpose[0][0]

conv2d\_7[0][0]

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conv2d\_10 (Conv2D) (None, 12, 12, 256) 1179904 concatenate[0][0]

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conv2d\_11 (Conv2D) (None, 12, 12, 256) 590080 conv2d\_10[0][0]

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conv2d\_transpose\_1 (Conv2DTrans (None, 24, 24, 128) 131200 conv2d\_11[0][0]

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concatenate\_1 (Concatenate) (None, 24, 24, 256) 0 conv2d\_transpose\_1[0][0]

conv2d\_5[0][0]

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conv2d\_12 (Conv2D) (None, 24, 24, 128) 295040 concatenate\_1[0][0]

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conv2d\_13 (Conv2D) (None, 24, 24, 128) 147584 conv2d\_12[0][0]

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conv2d\_transpose\_2 (Conv2DTrans (None, 48, 48, 64) 32832 conv2d\_13[0][0]

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concatenate\_2 (Concatenate) (None, 48, 48, 128) 0 conv2d\_transpose\_2[0][0]

conv2d\_3[0][0]

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conv2d\_14 (Conv2D) (None, 48, 48, 64) 73792 concatenate\_2[0][0]

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conv2d\_15 (Conv2D) (None, 48, 48, 64) 36928 conv2d\_14[0][0]

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conv2d\_transpose\_3 (Conv2DTrans (None, 96, 96, 32) 8224 conv2d\_15[0][0]

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concatenate\_3 (Concatenate) (None, 96, 96, 64) 0 conv2d\_transpose\_3[0][0]

conv2d\_1[0][0]

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conv2d\_16 (Conv2D) (None, 96, 96, 32) 18464 concatenate\_3[0][0]

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conv2d\_17 (Conv2D) (None, 96, 96, 32) 9248 conv2d\_16[0][0]

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conv2d\_18 (Conv2D) (None, 96, 96, 1) 33 conv2d\_17[0][0]

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Total params: 7,759,521

Trainable params: 7,759,521

Non-trainable params: 0

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cuda\_diagnostics