```
ssh://root@103.254.67.181:10006/usr/bin/python -u /home/sunfengzhen/pycharm/typhoon_predict/typhoon_train.py
/usr/local/lib/python2.7/dist-packages/folium/__init__.py:59: UserWarning: This version of folium is the last to support Python 2. Transition to Python 3 to be able to receive updates and fixes. Check out https://python3statement.org/ for more info.
  UserWarning
**********loading data**********
**************mode: test **************
load testdata from dir : ../../../data/sfz/data_typhoon/rgb/test_process
indices is  [0, 12, 24, 36, 48, 60]
there are 6 sequences

there are 72 files in frames_file_name
data.shape (72, 200, 200, 3)
there are 72 pictures in frames_np
**************mode: train **************
time 01 load data from dir : ../../../data/sfz/data_typhoon/rgb/train
num of png_file_list = 6480
time 02 load data from dir : ../../../data/sfz/data_typhoon/rgb/train
num of png_file_list = 6480
time 03 load data from dir : ../../../data/sfz/data_typhoon/rgb/train
num of png_file_list = 6480
time 04 load data from dir : ../../../data/sfz/data_typhoon/rgb/train
num of png_file_list = 6480
time 05 load data from dir : ../../../data/sfz/data_typhoon/rgb/train
num of png_file_list = 6480
time 06 load data from dir : ../../../data/sfz/data_typhoon/rgb/train
num of png_file_list = 6480
indices is  [0, 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132,
```

```
26 144, 156, 168, 180, 192, 204, 216, 228, 240, 252, 264, 276, 288,
   300, 312, 324, 336, 348, 360, 372, 384, 396, 408, 420, 432, 444,
   456, 468, 480, 492, 504, 516, 528, 540, 552, 564, 576, 588, 600,
   612, 624, 636, 648, 660, 672, 684, 696, 708, 720, 732, 744, 756,
   768, 780, 792, 804, 816, 828, 840, 852, 864, 876, 888, 900, 912,
   924, 936, 948, 960, 972, 984, 996, 1008, 1020, 1032, 1044, 1056,
   1068, 1080, 1092, 1104, 1116, 1128, 1140, 1152, 1164, 1176, 1188
   , 1200, 1212, 1224, 1236, 1248, 1260, 1272, 1284, 1296, 1308,
   1320, 1332, 1344, 1356, 1368, 1380, 1392, 1404, 1416, 1428, 1440
   , 1452, 1464, 1476, 1488, 1500, 1512, 1524, 1536, 1548, 1560,
   1572, 1584, 1596, 1608, 1620, 1632, 1644, 1656, 1668, 1680, 1692
   , 1704, 1716, 1728, 1740, 1752, 1764, 1776, 1788, 1800, 1812,
   1824, 1836, 1848, 1860, 1872, 1884, 1896, 1908, 1920, 1932, 1944
   , 1956, 1968, 1980, 1992, 2004, 2016, 2028, 2040, 2052, 2064,
   2076, 2088, 2100, 2112, 2124, 2136, 2148, 2160, 2172, 2184, 2196
   , 2208, 2220, 2232, 2244, 2256, 2268, 2280, 2292, 2304, 2316,
   2328, 2340, 2352, 2364, 2376, 2388, 2400, 2412, 2424, 2436, 2448
   , 2460, 2472, 2484, 2496, 2508, 2520, 2532, 2544, 2556, 2568,
   2580, 2592, 2604, 2616, 2628, 2640, 2652, 2664, 2676, 2688, 2700
   , 2712, 2724, 2736, 2748, 2760, 2772, 2784, 2796, 2808, 2820,
   2832, 2844, 2856, 2868, 2880, 2892, 2904, 2916, 2928, 2940, 2952
   , 2964, 2976, 2988, 3000, 3012, 3024, 3036, 3048, 3060, 3072,
   3084, 3096, 3108, 3120, 3132, 3144, 3156, 3168, 3180, 3192, 3204
   , 3216, 3228, 3240, 3252, 3264, 3276, 3288, 3300, 3312, 3324,
   3336, 3348, 3360, 3372, 3384, 3396, 3408, 3420, 3432, 3444, 3456
   , 3468, 3480, 3492, 3504, 3516, 3528, 3540, 3552, 3564, 3576,
   3588, 3600, 3612, 3624, 3636, 3648, 3660, 3672, 3684, 3696, 3708
   , 3720, 3732, 3744, 3756, 3768, 3780, 3792, 3804, 3816, 3828,
   3840, 3852, 3864, 3876, 3888, 3900, 3912, 3924, 3936, 3948, 3960
   , 3972, 3984, 3996, 4008, 4020, 4032, 4044, 4056, 4068, 4080,
   4092, 4104, 4116, 4128, 4140, 4152, 4164, 4176, 4188, 4200, 4212
   , 4224, 4236, 4248, 4260, 4272, 4284, 4296, 4308, 4320, 4332,
   4344, 4356, 4368, 4380, 4392, 4404, 4416, 4428, 4440, 4452, 4464
   , 4476, 4488, 4500, 4512, 4524, 4536, 4548, 4560, 4572, 4584,
   4596, 4608, 4620, 4632, 4644, 4656, 4668, 4680, 4692, 4704, 4716
   , 4728, 4740, 4752, 4764, 4776, 4788, 4800, 4812, 4824, 4836,
   4848, 4860, 4872, 4884, 4896, 4908, 4920, 4932, 4944, 4956, 4968
```

```
, 4980, 4992, 5004, 5016, 5028, 5040, 5052, 5064, 5076, 5088,
5100, 5112, 5124, 5136, 5148, 5160, 5172, 5184, 5196, 5208, 5220
, 5232, 5244, 5256, 5268, 5280, 5292, 5304, 5316, 5328, 5340,
5352, 5364, 5376, 5388, 5400, 5412, 5424, 5436, 5448, 5460, 5472
, 5484, 5496, 5508, 5520, 5532, 5544, 5556, 5568, 5580, 5592,
5604, 5616, 5628, 5640, 5652, 5664, 5676, 5688, 5700, 5712, 5724
, 5736, 5748, 5760, 5772, 5784, 5796, 5808, 5820, 5832, 5844,
5856, 5868, 5880, 5892, 5904, 5916, 5928, 5940, 5952, 5964, 5976
, 5988, 6000, 6012, 6024, 6036, 6048, 6060, 6072, 6084, 6096,
6108, 6120, 6132, 6144, 6156, 6168, 6180, 6192, 6204, 6216, 6228
, 6240, 6252, 6264, 6276, 6288, 6300, 6312, 6324]
there are 528 sequences

there are 6336 files in frames_file_name
data.shape (6336, 200, 200, 3)
there are 6336 pictures in frames_np
**********loading network and  models**********
num_hidden : [128, 64, 64, 64]
2019-09-07 16:03:33.833888: I tensorflow/core/platform/
cpu_feature_guard.cc:141] Your CPU supports instructions that
this TensorFlow binary was not compiled to use: AVX2 FMA
2019-09-07 16:03:34.079710: I tensorflow/core/common_runtime/gpu/
gpu_device.cc:1432] Found device 0 with properties:
name: GeForce GTX 1080 Ti major: 6 minor: 1 memoryClockRate(GHz
): 1.582
pciBusID: 0000:82:00.0
totalMemory: 10.92GiB freeMemory: 10.76GiB
2019-09-07 16:03:34.079762: I tensorflow/core/common_runtime/gpu/
gpu_device.cc:1511] Adding visible gpu devices: 0
2019-09-07 16:03:34.438707: I tensorflow/core/common_runtime/gpu/
gpu_device.cc:982] Device interconnect StreamExecutor with
strength 1 edge matrix:
2019-09-07 16:03:34.438801: I tensorflow/core/common_runtime/gpu/
gpu_device.cc:988]      0
2019-09-07 16:03:34.438816: I tensorflow/core/common_runtime/gpu/
gpu_device.cc:1001] 0:   N
2019-09-07 16:03:34.439236: I tensorflow/core/common_runtime/gpu/
```

```
gpu_device.cc:1115] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:0 with 10409 MB memory) -> physical GPU (device: 0, name: GeForce GTX 1080 Ti, pci bus id: 0000:82:00.0, compute capability: 6.1)
ckpt.model_checkpoint_path train_output/checkpoints/typhoon_predrnn_pp/model.ckpt-50000
restore checkpoint from dir:  train_output/checkpoints/typhoon_predrnn_pp
**********training**********
2019-09-07 16:04:20.469803: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 1.87GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.
2019-09-07 16:04:20.487243: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 1.82GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.
2019-09-07 16:04:20.612421: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 2.13GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.
2019-09-07 16:04:20.631226: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 2.08GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.
2019-09-07 16:04:20.654284: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 1.60GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.
2019-09-07 16:04:20.671238: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 1.56GiB. The caller indicates that this is not
```

```
 a failure, but may mean that there could be performance gains if more memory were available.
2019-09-07 16:04:20.691546: W tensorflow/core/common_runtime/bfc_allocator.cc:211] Allocator (GPU_0_bfc) ran out of memory trying to allocate 1.47GiB. The caller indicates that this is not a failure, but may mean that there could be performance gains if more memory were available.
itr: 100
training loss: 319.85233
itr: 200
training loss: 535.8313
itr: 300
training loss: 495.55957
itr: 400
training loss: 646.7308
itr: 500
training loss: 544.81177
itr: 600
training loss: 513.01886
itr: 700
training loss: 514.14764
itr: 800
training loss: 596.82666
itr: 900
training loss: 531.3949
itr: 1000
training loss: 513.9764
test...
mse per seq: 779.3378067016602
75.66039276123047
109.87516784667969
131.82431030273438
139.99636840820312
152.94642639160156
169.03514099121094
psnr per frame: 25.02918
27.20973
```

```
25.630444
24.857145
24.562563
24.177895
23.737309
fmae per frame: 1721.203
1269.1389
1562.1357
1745.8552
1820.0159
1908.2034
2021.8695
ssim per frame: 0.6156735
0.64423686
0.62075466
0.6083399
0.6139587
0.61144674
0.5953043
sharpness per frame: 52.791668
52.5
47.5
56.25
57.0
52.25
51.25
itr: 1100
training loss: 549.4967
itr: 1200
training loss: 401.95108
itr: 1300
training loss: 545.9696
itr: 1400
training loss: 571.7944
itr: 1500
training loss: 528.50854
itr: 1600
```

```
training loss: 462.0266
itr: 1700
training loss: 479.55453
itr: 1800
training loss: 488.15872
itr: 1900
training loss: 372.5019
itr: 2000
training loss: 527.8995
test...
mse per seq: 780.8802185058594
75.69731903076172
109.95304107666016
131.97415161132812
140.3842315673828
153.2267303466797
169.64474487304688
psnr per frame: 25.02053
27.207922
25.625843
24.851122
24.550262
24.168266
23.719774
fmae per frame: 1722.9188
1269.0686
1562.364
1747.0562
1822.9147
1910.0388
2026.0706
ssim per frame: 0.61455816
0.64365405
0.6197595
0.6070712
0.6128353
0.610505
```

```
0.5935237
sharpness per frame: 52.916668
54.5
51.25
55.0
58.5
46.5
51.75
itr: 2100
training loss: 476.02948
itr: 2200
training loss: 455.0644
itr: 2300
training loss: 512.4885
itr: 2400
training loss: 491.7247
itr: 2500
training loss: 526.25543
itr: 2600
training loss: 358.4304
itr: 2700
training loss: 524.7897
itr: 2800
training loss: 568.756
itr: 2900
training loss: 482.93323
itr: 3000
training loss: 516.4315
test...
mse per seq: 784.6051864624023
76.29686737060547
110.85861206054688
132.81578063964844
140.517333984375
153.87278747558594
170.24380493164062
psnr per frame: 24.999191
```

```
27.17558
25.590292
24.82521
24.546227
24.151335
23.7065
fmae per frame: 1728.2645
1274.8723
1569.4406
1753.7368
1825.5535
1915.3424
2030.6404
ssim per frame: 0.6122549
0.6418905
0.6176832
0.6044924
0.6110012
0.607944
0.59051806
sharpness per frame: 54.583332
52.75
51.0
57.5
59.75
51.0
55.5
itr: 3100
training loss: 567.56573
itr: 3200
training loss: 424.3129
itr: 3300
training loss: 513.5361
itr: 3400
training loss: 419.56107
itr: 3500
training loss: 556.23334
```

```
itr: 3600
training loss: 514.13293
itr: 3700
training loss: 459.3163
itr: 3800
training loss: 549.6206
itr: 3900
training loss: 459.43878
itr: 4000
training loss: 526.20795
test...
mse per seq: 787.1486892700195
76.12324523925781
110.76114654541016
133.06541442871094
141.3330535888672
154.63429260253906
171.23153686523438
psnr per frame: 24.99051
27.187777
25.596771
24.820015
24.524069
24.132505
23.68193
fmae per frame: 1730.2041
1272.964
1568.2229
1754.975
1829.5029
1919.2317
2036.3286
ssim per frame: 0.61191005
0.6419888
0.61743385
0.60444057
0.6103182
```

```
0.60718423
0.59009445
sharpness per frame: 55.083332
54.25
51.25
60.0
58.25
52.25
54.5
itr: 4100
training loss: 482.7332
itr: 4200
training loss: 514.5293
itr: 4300
training loss: 519.04376
itr: 4400
training loss: 510.31537
itr: 4500
training loss: 557.77814
itr: 4600
training loss: 577.98425
itr: 4700
training loss: 394.11353
itr: 4800
training loss: 477.44833
itr: 4900
training loss: 589.09406
itr: 5000
training loss: 432.8638
test...
mse per seq: 789.3710021972656
76.1190414428711
110.80498504638672
133.27774047851562
141.86318969726562
155.34678649902344
171.95925903320312
```

```
psnr per frame: 24.975885
27.179611
25.59034
24.81016
24.504684
24.108498
23.66203
fmae per frame: 1731.5747
1271.4613
1567.1685
1754.9792
1832.0076
1923.6992
2040.1321
ssim per frame: 0.61257416
0.6422708
0.61797255
0.6050106
0.61117667
0.6080074
0.5910071
sharpness per frame: 56.25
54.5
52.5
62.5
57.0
55.0
56.0
saved to train_output/checkpoints/typhoon_predrnn_pp
itr: 5100
training loss: 409.80173
itr: 5200
training loss: 472.2739
itr: 5300
training loss: 560.8575
itr: 5400
training loss: 420.83643
```

```
itr: 5500
training loss: 455.52606
itr: 5600
training loss: 521.9307
itr: 5700
training loss: 516.3694
itr: 5800
training loss: 434.10446
itr: 5900
training loss: 490.58728
itr: 6000
training loss: 474.21643
test...
mse per seq: 783.1311950683594
76.1141357421875
110.41386413574219
132.42605590820312
140.5540771484375
153.5843048095703
170.03875732421875
psnr per frame: 25.005419
27.181118
25.604712
24.835987
24.543709
24.15779
23.70921
fmae per frame: 1723.8468
1271.443
1563.2908
1748.2329
1822.0891
1911.6003
2026.4248
ssim per frame: 0.6126792
0.64213073
0.6185533
```

```
0.6053656
0.6113694
0.60843664
0.5902195
sharpness per frame: 56.083332
54.75
53.25
59.75
56.5
54.0
58.25
itr: 6100
training loss: 529.3747
itr: 6200
training loss: 520.0434
itr: 6300
training loss: 399.63678
itr: 6400
training loss: 495.33813
itr: 6500
training loss: 576.1087
itr: 6600
training loss: 478.7471
itr: 6700
training loss: 548.0902
itr: 6800
training loss: 389.89545
itr: 6900
training loss: 379.8199
itr: 7000
training loss: 503.56335
test...
mse per seq: 789.7840576171875
76.22296142578125
110.92314147949219
133.4173583984375
142.01527404785156
```

```
155.38046264648438
171.82485961914062
psnr per frame: 24.975306
27.177322
25.587372
24.807178
24.502384
24.110527
23.667057
fmae per frame: 1732.1442
1272.6388
1568.1094
1755.6636
1833.4395
1923.8557
2039.158
ssim per frame: 0.6115624
0.64175457
0.61717665
0.6044048
0.60996246
0.60681283
0.5892627
sharpness per frame: 54.541668
53.5
52.25
60.25
53.5
51.5
56.25
itr: 7100
training loss: 511.87933
itr: 7200
training loss: 521.3273
itr: 7300
training loss: 503.46133
itr: 7400
```

```
training loss: 506.9303
itr: 7500
training loss: 528.3396
itr: 7600
training loss: 497.23776
itr: 7700
training loss: 371.23755
itr: 7800
training loss: 570.847
itr: 7900
training loss: 652.42944
itr: 8000
training loss: 505.0212
test...
mse per seq: 783.5084533691406
76.38671112060547
110.6203384399414
132.73046875
140.60328674316406
153.5894775390625
169.5781707763672
psnr per frame: 25.003286
27.170307
25.59793
24.826054
24.543575
24.160225
23.721634
fmae per frame: 1726.1776
1275.1399
1566.3989
1751.7307
1824.5988
1912.7969
2026.4004
ssim per frame: 0.6105681
0.6405961
```

```
0.6170481
0.60287434
0.60922843
0.6060319
0.58762974
sharpness per frame: 56.291668
56.25
53.5
63.75
54.0
54.0
56.25
itr: 8100
training loss: 591.27094
itr: 8200
training loss: 519.8867
itr: 8300
training loss: 851.6472
itr: 8400
training loss: 335.18842
itr: 8500
training loss: 513.34375
itr: 8600
training loss: 629.64954
itr: 8700
training loss: 504.00046
itr: 8800
training loss: 472.7745
itr: 8900
training loss: 538.71454
itr: 9000
training loss: 409.08093
test...
mse per seq: 787.4608764648438
76.29805755615234
110.96562957763672
133.19964599609375
```

```
141.39859008789062
154.61961364746094
170.97933959960938
psnr per frame: 24.982904
27.168655
25.582798
24.812517
24.517511
24.129478
23.686462
fmae per frame: 1729.1886
1273.2725
1567.6831
1754.1284
1828.1846
1918.2493
2033.6144
ssim per frame: 0.61151433
0.64176315
0.617035
0.6039397
0.61019695
0.6068243
0.589327
sharpness per frame: 55.833332
57.0
52.5
60.0
53.5
52.25
59.75
saved to train_output/checkpoints/typhoon_predrnn_pp
itr: 9100
training loss: 385.02057
itr: 9200
training loss: 534.691
itr: 9300
```

```
training loss: 569.5498
itr: 9400
training loss: 521.2378
itr: 9500
training loss: 620.5048
itr: 9600
training loss: 449.82202
itr: 9700
training loss: 521.93335
itr: 9800
training loss: 491.06702
itr: 9900
training loss: 517.6193
itr: 10000
training loss: 577.3351
test...
mse per seq: 790.5541381835938
76.39936828613281
111.05488586425781
133.6074981689453
141.91033935546875
155.3960418701172
172.18600463867188
psnr per frame: 24.97246
27.17083
25.58506
24.803272
24.505297
24.11162
23.658697
fmae per frame: 1733.483
1274.4371
1569.3691
1757.6631
1832.9851
1924.7772
2041.6671
```

```
ssim per frame: 0.61028665
0.64062864
0.6167406
0.6031868
0.6088433
0.6050635
0.5872569
sharpness per frame: 57.041668
56.75
53.0
61.25
58.25
54.5
58.5
itr: 10100
training loss: 412.3036
itr: 10200
training loss: 542.19543
itr: 10300
training loss: 521.9575
itr: 10400
training loss: 522.545
itr: 10500
training loss: 556.44214
itr: 10600
training loss: 452.25397
itr: 10700
training loss: 574.0169
itr: 10800
training loss: 509.00717
itr: 10900
training loss: 471.44608
itr: 11000
training loss: 532.21625
test...
mse per seq: 791.6426849365234
76.61325073242188
```

```
111.23287963867188
133.8199462890625
142.29664611816406
155.6916961669922
171.98826599121094
psnr per frame: 24.957083
27.145407
25.56977
24.787024
24.486149
24.09672
23.657415
fmae per frame: 1732.4828
1274.9224
1568.2205
1756.0907
1832.938
1923.5393
2039.1852
ssim per frame: 0.6102653
0.6408593
0.6168148
0.6031755
0.6088468
0.6054812
0.58641404
sharpness per frame: 57.75
57.0
53.75
63.5
60.0
53.25
59.0
itr: 11100
training loss: 494.49326
itr: 11200
training loss: 616.0118
```

```
itr: 11300
training loss: 560.7286
itr: 11400
training loss: 562.29834
itr: 11500
training loss: 495.21945
itr: 11600
training loss: 578.50586
itr: 11700
training loss: 488.2102
itr: 11800
training loss: 464.64923
itr: 11900
training loss: 553.5357
itr: 12000
training loss: 474.71198
test...
mse per seq: 790.6155853271484
76.77242279052734
111.21781158447266
133.70159912109375
141.9577178955078
155.20314025878906
171.7628936767578
psnr per frame: 24.96666
27.144665
25.575535
24.796894
24.50221
24.114618
23.666042
fmae per frame: 1732.7788
1276.7574
1569.3342
1757.3379
1832.4366
1922.7737
```

```
2038.0336
ssim per frame: 0.6092487
0.6395582
0.61586064
0.6023639
0.60820633
0.60410225
0.5854012
sharpness per frame: 58.166668
56.25
52.75
63.5
59.0
56.75
60.75
itr: 12100
training loss: 521.62317
itr: 12200
training loss: 582.02673
itr: 12300
training loss: 409.863
itr: 12400
training loss: 464.42786
itr: 12500
training loss: 384.8345
itr: 12600
training loss: 530.437
itr: 12700
training loss: 609.194
itr: 12800
training loss: 553.7483
itr: 12900
training loss: 656.5859
itr: 13000
training loss: 522.88544
test...
mse per seq: 789.8031692504883
```

```
76.57870483398438
111.01871490478516
133.51170349121094
141.83999633789062
155.255126953125
171.5989227294922
psnr per frame: 24.973616
27.158665
25.583467
24.804995
24.508118
24.11482
23.671623
fmae per frame: 1731.9756
1275.1116
1568.8441
1756.5121
1831.8508
1922.4327
2037.102
ssim per frame: 0.60934335
0.63997114
0.6160241
0.6021639
0.60836625
0.6039457
0.5855887
sharpness per frame: 58.083332
55.5
54.5
63.5
58.0
57.75
59.25
itr: 13100
training loss: 400.2003
itr: 13200
```

```
training loss: 367.85895
itr: 13300
training loss: 488.0151
itr: 13400
training loss: 422.9903
itr: 13500
training loss: 520.62854
itr: 13600
training loss: 381.24033
itr: 13700
training loss: 514.37805
itr: 13800
training loss: 504.05652
itr: 13900
training loss: 568.3437
itr: 14000
training loss: 543.9264
test...
mse per seq: 783.6244583129883
76.52930450439453
110.6011962890625
132.79034423828125
140.46121215820312
153.65585327148438
169.5865478515625
psnr per frame: 25.004412
27.16391
25.6002
24.82933
24.550396
24.15963
23.723
fmae per frame: 1725.7242
1276.1555
1565.6902
1751.5746
1822.6537
```

```
1913.1095
2025.1619
ssim per frame: 0.61016047
0.63999337
0.6169018
0.6024791
0.60913986
0.6054569
0.5869918
sharpness per frame: 58.083332
55.0
53.75
63.25
59.5
54.75
62.25
itr: 14100
training loss: 489.1217
itr: 14200
training loss: 410.6042
itr: 14300
training loss: 623.2548
itr: 14400
training loss: 415.74677
itr: 14500
training loss: 494.39993
itr: 14600
training loss: 566.93915
itr: 14700
training loss: 499.4851
itr: 14800
training loss: 582.7361
itr: 14900
training loss: 505.90298
itr: 15000
training loss: 554.72266
test...
```

```
mse per seq: 792.1698913574219
76.68778991699219
111.26869201660156
134.00527954101562
142.3123779296875
155.74354553222656
172.15220642089844
psnr per frame: 24.959127
27.149643
25.572918
24.786959
24.49089
24.098164
23.656197
fmae per frame: 1733.982
1275.2811
1569.4708
1758.4458
1834.5577
1925.499
2040.6392
ssim per frame: 0.60923773
0.6397363
0.6160513
0.60213983
0.6080094
0.60411185
0.5853778
sharpness per frame: 57.583332
56.0
53.5
64.75
59.25
53.5
58.5
itr: 15100
training loss: 471.1196
```

```
itr: 15200
training loss: 497.88574
itr: 15300
training loss: 445.4769
itr: 15400
training loss: 535.6067
itr: 15500
training loss: 539.90894
itr: 15600
training loss: 512.5145
itr: 15700
training loss: 677.2299
itr: 15800
training loss: 693.08405
itr: 15900
training loss: 402.22296
itr: 16000
training loss: 512.577
test...
mse per seq: 791.5995559692383
76.90823364257812
111.4065933227539
133.82945251464844
142.22207641601562
155.6466827392578
171.58651733398438
psnr per frame: 24.95652
27.130257
25.56267
24.788948
24.491085
24.098042
23.668127
fmae per frame: 1732.2485
1276.8589
1568.0911
1756.0092
```

```
1832.8
1923.3672
2036.3654
ssim per frame: 0.6091245
0.63967323
0.61601907
0.6018015
0.60806084
0.6040989
0.5850932
sharpness per frame: 58.333332
58.75
54.25
63.75
55.25
58.5
59.5
itr: 16100
training loss: 507.1734
itr: 16200
training loss: 545.1625
itr: 16300
training loss: 398.73315
itr: 16400
training loss: 556.1802
itr: 16500
training loss: 492.30167
itr: 16600
training loss: 796.7709
itr: 16700
training loss: 576.2968
itr: 16800
training loss: 395.13495
itr: 16900
training loss: 459.40128
itr: 17000
training loss: 486.51636
```

```
test...
mse per seq: 790.9239883422852
76.85108947753906
111.31452178955078
133.67543029785156
142.01194763183594
155.39373779296875
171.67726135253906
psnr per frame: 24.962942
27.13737
25.570082
24.795921
24.498724
24.107908
23.667645
fmae per frame: 1733.251
1277.3745
1569.503
1757.3617
1833.0037
1923.6603
2038.6028
ssim per frame: 0.6083916
0.6394152
0.61550367
0.60137093
0.6070845
0.60274655
0.5842287
sharpness per frame: 57.625
55.0
53.25
62.25
57.75
55.75
61.75
itr: 17100
```

```
training loss: 501.0152
itr: 17200
training loss: 528.3588
itr: 17300
training loss: 342.93857
itr: 17400
training loss: 507.843
itr: 17500
training loss: 507.33344
itr: 17600
training loss: 607.723
itr: 17700
training loss: 503.73254
itr: 17800
training loss: 492.99072
itr: 17900
training loss: 607.1805
itr: 18000
training loss: 497.3366
test...
mse per seq: 792.1600646972656
76.84980010986328
111.36092376708984
133.9349822998047
142.26760864257812
155.87510681152344
171.87164306640625
psnr per frame: 24.957754
27.139545
25.567616
24.78787
24.49235
24.09473
23.664415
fmae per frame: 1733.3651
1277.0411
1569.2233
```

```
1757.596
1832.858
1925.1135
2038.358
ssim per frame: 0.60860896
0.63912976
0.6157742
0.60129774
0.6069867
0.60360175
0.58486366
sharpness per frame: 58.791668
56.5
53.5
63.25
60.5
59.25
59.75
itr: 18100
training loss: 461.2767
itr: 18200
training loss: 500.91766
itr: 18300
training loss: 550.9756
itr: 18400
training loss: 401.43152
itr: 18500
training loss: 518.8891
itr: 18600
training loss: 478.0479
itr: 18700
training loss: 484.92007
itr: 18800
training loss: 430.27692
itr: 18900
training loss: 370.5473
itr: 19000
```

```
training loss: 490.0107
test...
mse per seq: 791.6102294921875
76.8153076171875
111.3800048828125
133.94187927246094
142.0565948486328
155.6930694580078
171.72337341308594
psnr per frame: 24.964891
27.14883
25.571945
24.79238
24.502333
24.10259
23.671268
fmae per frame: 1733.9058
1277.5782
1571.3755
1759.4095
1833.2404
1925.0789
2036.752
ssim per frame: 0.6080969
0.638929
0.61534727
0.6011563
0.60703814
0.60222507
0.58388567
sharpness per frame: 58.875
56.25
55.5
65.5
56.25
57.0
62.75
```

```
itr: 19100
training loss: 526.74634
itr: 19200
training loss: 380.30255
itr: 19300
training loss: 545.3331
itr: 19400
training loss: 509.56024
itr: 19500
training loss: 478.6773
itr: 19600
training loss: 512.23505
itr: 19700
training loss: 437.0656
itr: 19800
training loss: 499.79102
itr: 19900
training loss: 491.51355
itr: 20000
training loss: 543.9459
test...
mse per seq: 793.8925704956055
77.01026916503906
111.45990753173828
134.46583557128906
142.33396911621094
156.02215576171875
172.60043334960938
psnr per frame: 24.95421
27.141432
25.568851
24.77645
24.495428
24.09444
23.648666
fmae per frame: 1736.9537
1279.6873
```

```
1572.6655
1763.123
1835.4019
1927.7683
2043.0773
ssim per frame: 0.6068902
0.6381466
0.6141149
0.5996178
0.60608894
0.60131836
0.5820548
sharpness per frame: 58.958332
56.0
54.0
65.25
58.0
58.0
62.5
itr: 20100
training loss: 470.72107
itr: 20200
training loss: 430.32428
itr: 20300
training loss: 458.8778
itr: 20400
training loss: 544.42096
itr: 20500
training loss: 499.0736
itr: 20600
training loss: 467.57257
itr: 20700
training loss: 411.604
itr: 20800
training loss: 642.8509
itr: 20900
training loss: 482.4544
```

```
itr: 21000
training loss: 499.84637
test...
mse per seq: 788.4428176879883
76.76686096191406
110.92935943603516
133.2223663330078
141.59979248046875
155.12388610839844
170.80055236816406
psnr per frame: 24.977495
27.14558
25.586384
24.812319
24.512865
24.115923
23.69191
fmae per frame: 1729.9991
1276.5967
1567.1648
1754.309
1829.0518
1921.2048
2031.6676
ssim per frame: 0.608042
0.63894504
0.61520857
0.6011884
0.60652393
0.60195494
0.5844311
sharpness per frame: 58.083332
55.5
55.75
62.0
56.75
56.75
```

```
61.75
itr: 21100
training loss: 447.9266
itr: 21200
training loss: 541.8604
itr: 21300
training loss: 539.83655
itr: 21400
training loss: 550.8985
itr: 21500
training loss: 561.4041
itr: 21600
training loss: 494.39545
itr: 21700
training loss: 536.6894
itr: 21800
training loss: 702.4502
itr: 21900
training loss: 531.5542
itr: 22000
training loss: 368.7849
test...
mse per seq: 789.5265808105469
76.99439239501953
111.2916488647461
133.77774047851562
141.56961059570312
154.9680938720703
170.9250946044922
psnr per frame: 24.970964
27.135128
25.571667
24.794926
24.514194
24.121437
23.688433
fmae per frame: 1731.2504
```

```
1278.7137
1569.755
1757.7621
1829.3047
1919.8016
2032.1647
ssim per frame: 0.60744315
0.63859034
0.61496985
0.60055107
0.6063349
0.60172075
0.58249223
sharpness per frame: 59.291668
56.25
56.0
65.0
56.75
60.25
61.5
saved to train_output/checkpoints/typhoon_predrnn_pp
itr: 22100
training loss: 516.6425
itr: 22200
training loss: 614.2223
itr: 22300
training loss: 483.1924
itr: 22400
training loss: 382.93524
itr: 22500
training loss: 416.50812
itr: 22600
training loss: 506.62698
itr: 22700
training loss: 495.41248
itr: 22800
training loss: 530.2674
```

```
itr: 22900
training loss: 530.4706
itr: 23000
training loss: 554.60925
test...
mse per seq: 793.4720001220703
77.1298599243164
111.4638900756836
134.2121124267578
142.35977172851562
156.07559204101562
172.23077392578125
psnr per frame: 24.951784
27.12584
25.564707
24.781569
24.491194
24.090933
23.65647
fmae per frame: 1735.7578
1279.7957
1570.9858
1760.2273
1834.6597
1927.9675
2040.9106
ssim per frame: 0.6074192
0.6381914
0.61484975
0.6003489
0.6065239
0.60164034
0.58296126
sharpness per frame: 59.666668
59.5
54.5
63.5
```

```
57.5
59.75
63.25
itr: 23100
training loss: 462.92218
itr: 23200
training loss: 587.6624
itr: 23300
training loss: 504.50836
itr: 23400
training loss: 529.94727
itr: 23500
training loss: 427.17572
itr: 23600
training loss: 464.24243
itr: 23700
training loss: 468.0667
itr: 23800
training loss: 520.838
itr: 23900
training loss: 412.58817
itr: 24000
training loss: 500.7078
test...
mse per seq: 791.7321853637695
77.24862670898438
111.6585464477539
134.14756774902344
141.9266815185547
155.28004455566406
171.47071838378906
psnr per frame: 24.959663
27.120533
25.558634
24.784084
24.505455
24.11325
```

```
23.676023
fmae per frame: 1734.2628
1280.906
1572.7574
1760.4019
1832.7046
1922.553
2036.2537
ssim per frame: 0.60691
0.63756794
0.6142288
0.6001033
0.6060101
0.6017495
0.5818005
sharpness per frame: 59.666668
57.25
56.0
62.75
57.25
60.5
64.25
itr: 24100
training loss: 523.8441
itr: 24200
training loss: 348.59097
itr: 24300
training loss: 492.4722
itr: 24400
training loss: 521.7495
itr: 24500
training loss: 501.16473
itr: 24600
training loss: 529.0089
itr: 24700
training loss: 545.8071
itr: 24800
```

```
training loss: 497.1418
itr: 24900
training loss: 491.5656
itr: 25000
training loss: 553.99695
test...
mse per seq: 798.4296188354492
77.50183868408203
112.13427734375
135.00001525878906
143.20327758789062
157.1202850341797
173.4699249267578
psnr per frame: 24.926249
27.106293
25.54012
24.757229
24.466026
24.06216
23.625666
fmae per frame: 1741.9194
1282.5496
1575.5627
1767.7286
1841.7747
1934.8782
2049.0234
ssim per frame: 0.60548055
0.63670707
0.61349916
0.59872776
0.6047055
0.5992
0.58004373
sharpness per frame: 60.166668
56.75
57.5
```

```
63.5
56.75
60.25
66.25
itr: 25100
training loss: 500.3705
itr: 25200
training loss: 498.4003
itr: 25300
training loss: 437.78336
itr: 25400
training loss: 485.5652
itr: 25500
training loss: 522.99426
itr: 25600
training loss: 546.14417
itr: 25700
training loss: 566.71173
itr: 25800
training loss: 481.10934
itr: 25900
training loss: 563.2359
itr: 26000
training loss: 562.9593
test...
mse per seq: 790.0209655761719
77.161865234375
111.39802551269531
133.71017456054688
141.56214904785156
155.01535034179688
171.17340087890625
psnr per frame: 24.972275
27.131813
25.572649
24.802017
24.518822
```

```
24.122452
23.685905
fmae per frame: 1732.5142
1280.2596
1571.2864
1758.2389
1830.3861
1921.9966
2032.917
ssim per frame: 0.6069488
0.6371308
0.6146004
0.6003255
0.60620105
0.6012571
0.58217806
sharpness per frame: 60.708332
57.5
55.25
64.25
57.0
61.75
68.5
itr: 26100
training loss: 587.21356
itr: 26200
training loss: 395.5676
itr: 26300
training loss: 587.6425
itr: 26400
training loss: 557.97656
itr: 26500
training loss: 409.65253
itr: 26600
training loss: 505.4926
itr: 26700
training loss: 824.81946
```

```
itr: 26800
training loss: 474.24857
itr: 26900
training loss: 428.072
itr: 27000
training loss: 519.30927
test...
mse per seq: 794.7058258056641
77.39270782470703
111.9376449584961
134.49191284179688
142.6564178466797
156.1495361328125
172.07760620117188
psnr per frame: 24.945105
27.114815
25.548042
24.773867
24.482704
24.08973
23.66147
fmae per frame: 1738.068
1282.6864
1574.9971
1763.964
1837.9617
1928.9913
2039.8073
ssim per frame: 0.6054713
0.6365759
0.61283076
0.5988583
0.60459274
0.5995617
0.5804083
sharpness per frame: 60.666668
58.75
```

```
56.0
65.0
57.5
62.5
64.25
itr: 27100
training loss: 510.58923
itr: 27200
training loss: 491.1996
itr: 27300
training loss: 477.18506
itr: 27400
training loss: 460.49338
itr: 27500
training loss: 541.95605
itr: 27600
training loss: 540.2059
itr: 27700
training loss: 461.37146
itr: 27800
training loss: 509.7371
itr: 27900
training loss: 491.62094
itr: 28000
training loss: 495.0233
test...
mse per seq: 792.6045608520508
77.5071792602539
111.59144592285156
133.93772888183594
142.45498657226562
155.7108917236328
171.40232849121094
psnr per frame: 24.949072
27.096838
25.555832
24.785656
```

```
24.48451
24.097454
23.674126
fmae per frame: 1732.3271
1281.4883
1568.99
1755.6329
1831.9119
1922.9429
2032.9958
ssim per frame: 0.6072553
0.6374819
0.6150761
0.600754
0.6056786
0.601393
0.58314794
sharpness per frame: 60.458332
58.0
57.75
64.5
59.0
60.25
63.25
itr: 28100
training loss: 492.57318
itr: 28200
training loss: 546.6529
itr: 28300
training loss: 477.73785
itr: 28400
training loss: 495.3048
itr: 28500
training loss: 493.92633
itr: 28600
training loss: 814.8068
itr: 28700
```

```
training loss: 526.72614
itr: 28800
training loss: 535.8446
itr: 28900
training loss: 350.16925
itr: 29000
training loss: 539.7722
test...
mse per seq: 793.4917526245117
77.39549255371094
111.60021209716797
134.29481506347656
141.9204559326172
156.0449676513672
172.23580932617188
psnr per frame: 24.955427
27.121006
25.564432
24.783691
24.508463
24.094591
23.66038
fmae per frame: 1735.4935
1282.1483
1572.177
1761.3054
1831.5315
1926.5365
2039.2622
ssim per frame: 0.6059595
0.63695514
0.61392325
0.5989694
0.6054409
0.59955776
0.58091074
sharpness per frame: 60.333332
```

```
58.5
56.75
63.5
56.75
61.75
64.75
itr: 29100
training loss: 452.32443
itr: 29200
training loss: 552.7433
itr: 29300
training loss: 514.7389
itr: 29400
training loss: 508.1555
itr: 29500
training loss: 486.30762
itr: 29600
training loss: 369.58868
itr: 29700
training loss: 489.57022
itr: 29800
training loss: 554.1677
itr: 29900
training loss: 632.63824
itr: 30000
training loss: 532.8738
test...
mse per seq: 795.2426147460938
77.39794921875
111.84486389160156
134.79551696777344
142.73838806152344
156.40322875976562
172.0626678466797
psnr per frame: 24.94224
27.114262
25.551714
```

```
24.764132
24.48011
24.082228
23.661003
fmae per frame: 1737.9469
1282.3694
1573.638
1764.888
1836.8545
1930.1687
2039.7626
ssim per frame: 0.60543114
0.63697064
0.6132689
0.5987572
0.60422105
0.59891474
0.58045423
sharpness per frame: 60.666668
57.75
56.5
60.25
58.0
66.75
64.75
itr: 30100
training loss: 539.2811
itr: 30200
training loss: 277.77686
itr: 30300
training loss: 526.87
itr: 30400
training loss: 505.88947
itr: 30500
training loss: 488.29626
itr: 30600
training loss: 446.62
```

```
itr: 30700
training loss: 276.9676
itr: 30800
training loss: 466.11365
itr: 30900
training loss: 517.87195
itr: 31000
training loss: 506.908
test...
mse per seq: 791.3702163696289
77.36553955078125
111.48387908935547
133.94296264648438
141.83456420898438
155.45120239257812
171.2920684814453
psnr per frame: 24.961548
27.115957
25.564816
24.79206
24.50782
24.108467
23.680176
fmae per frame: 1733.327
1281.8748
1570.6184
1758.7654
1830.5916
1922.9924
2035.1194
ssim per frame: 0.6064446
0.63700813
0.6142896
0.59960574
0.60568285
0.6007611
0.5813199
```

```
sharpness per frame: 60.791668
57.75
56.75
65.5
56.25
64.75
63.75
itr: 31100
training loss: 509.89987
itr: 31200
training loss: 520.09125
itr: 31300
training loss: 473.73868
itr: 31400
training loss: 469.65994
itr: 31500
training loss: 512.3976
itr: 31600
training loss: 411.9621
itr: 31700
training loss: 418.9936
itr: 31800
training loss: 567.3792
itr: 31900
training loss: 485.52612
itr: 32000
training loss: 350.69943
test...
mse per seq: 793.8998870849609
77.37083435058594
111.56510925292969
134.30384826660156
142.17039489746094
156.18397521972656
172.30572509765625
psnr per frame: 24.95114
27.1182
```

```
25.562592
24.781452
24.498837
24.089663
23.65608
fmae per frame: 1735.9141
1282.2137
1571.5002
1761.5737
1833.4512
1927.5874
2039.158
ssim per frame: 0.6057771
0.6368624
0.6137144
0.59906584
0.60497767
0.59946185
0.58058083
sharpness per frame: 60.583332
59.0
56.0
60.5
58.75
62.75
66.5
saved to train_output/checkpoints/typhoon_predrnn_pp
itr: 32100
training loss: 274.5971
itr: 32200
training loss: 434.8402
itr: 32300
training loss: 468.56445
itr: 32400
training loss: 498.78494
itr: 32500
training loss: 362.3716
```

```
itr: 32600
training loss: 563.3275
itr: 32700
training loss: 467.04346
itr: 32800
training loss: 556.16614
itr: 32900
training loss: 411.0395
itr: 33000
training loss: 507.60602
test...
mse per seq: 795.2247314453125
77.72216796875
111.81292724609375
134.27813720703125
142.49624633789062
156.70359802246094
172.21165466308594
psnr per frame: 24.934883
27.085194
25.546774
24.773504
24.482449
24.068419
23.652956
fmae per frame: 1735.6085
1283.7095
1571.0527
1759.0958
1832.2671
1929.1757
2038.3502
ssim per frame: 0.60556555
0.63653755
0.6137294
0.59860337
0.6047491
```

```
0.5990083
0.58076555
sharpness per frame: 61.583332
61.0
57.25
59.5
56.5
68.75
66.5
itr: 33100
training loss: 502.10986
itr: 33200
training loss: 544.68463
itr: 33300
training loss: 462.39047
itr: 33400
training loss: 395.6916
itr: 33500
training loss: 370.25928
itr: 33600
training loss: 275.18332
itr: 33700
training loss: 534.01917
itr: 33800
training loss: 460.33862
itr: 33900
training loss: 318.41684
itr: 34000
training loss: 396.2342
test...
mse per seq: 800.421012878418
77.71814727783203
112.28082275390625
135.05409240722656
143.86526489257812
157.77499389648438
173.72769165039062
```

```
psnr per frame: 24.909933
27.086086
25.529194
24.748743
24.44231
24.038282
23.61497
fmae per frame: 1742.3252
1283.6426
1574.6113
1764.9209
1842.8569
1938.331
2049.5884
ssim per frame: 0.60536027
0.6368797
0.6137674
0.59890544
0.60442054
0.5985545
0.57963425
sharpness per frame: 63.375
58.75
56.5
61.5
59.0
70.75
73.75
itr: 34100
training loss: 512.40625
itr: 34200
training loss: 573.12537
itr: 34300
training loss: 383.30298
itr: 34400
training loss: 686.42596
itr: 34500
```

```
training loss: 494.61066
itr: 34600
training loss: 400.32532
itr: 34700
training loss: 484.50342
itr: 34800
training loss: 536.72736
itr: 34900
training loss: 405.51575
itr: 35000
training loss: 348.09702
test...
mse per seq: 796.8493804931641
77.53645324707031
111.99465942382812
134.66610717773438
142.93222045898438
156.87503051757812
172.84490966796875
psnr per frame: 24.934874
27.106522
25.546303
24.768768
24.476124
24.069767
23.641754
fmae per frame: 1739.1686
1282.7295
1574.5488
1763.8746
1837.7148
1932.2737
2043.8701
ssim per frame: 0.6048229
0.63657814
0.61305845
0.59804213
```

```
0.6037688
0.598808
0.5786816
sharpness per frame: 60.541668
61.5
58.0
56.75
56.75
66.5
63.75
saved to train_output/checkpoints/typhoon_predrnn_pp
itr: 35100
training loss: 409.47278
itr: 35200
training loss: 561.2051
itr: 35300
training loss: 436.59177
itr: 35400
training loss: 496.5196
itr: 35500
training loss: 438.58838
itr: 35600
training loss: 466.45657
itr: 35700
training loss: 442.07745
itr: 35800
training loss: 514.98035
itr: 35900
training loss: 397.9178
itr: 36000
training loss: 374.13678
test...
mse per seq: 801.7258682250977
77.75210571289062
112.36164093017578
135.4111328125
144.05975341796875
```

```
158.20693969726562
173.93429565429688
psnr per frame: 24.906809
27.087742
25.529617
24.742016
24.438677
24.02986
23.612938
fmae per frame: 1743.4326
1283.6106
1575.9458
1766.6824
1844.2181
1939.8455
2050.2925
ssim per frame: 0.60384345
0.6360459
0.6126051
0.5977495
0.6025742
0.59631556
0.57777035
sharpness per frame: 63.083332
60.75
61.0
59.25
60.25
69.25
68.0
itr: 36100
training loss: 482.249
itr: 36200
training loss: 494.0399
itr: 36300
training loss: 545.34467
itr: 36400
```

```
training loss: 541.9922
itr: 36500
training loss: 477.01184
itr: 36600
training loss: 499.41275
itr: 36700
training loss: 549.5433
itr: 36800
training loss: 375.2829
itr: 36900
training loss: 541.6321
itr: 37000
training loss: 500.20245
test...
mse per seq: 796.2044982910156
77.586181640625
111.82142639160156
134.25331115722656
142.84829711914062
156.91458129882812
172.78070068359375
psnr per frame: 24.936728
27.101206
25.550959
24.78069
24.476833
24.067646
23.643036
fmae per frame: 1736.5355
1282.2241
1571.4908
1759.538
1835.0532
1930.0817
2040.8252
ssim per frame: 0.60525495
0.63633263
```

```
0.6132124
0.5991592
0.6042746
0.5983818
0.5801692
sharpness per frame: 62.416668
58.25
58.75
60.5
59.0
71.5
66.5
itr: 37100
training loss: 416.87283
itr: 37200
training loss: 483.35056
itr: 37300
training loss: 522.8264
itr: 37400
training loss: 575.0053
itr: 37500
training loss: 556.6648
itr: 37600
training loss: 387.2574
itr: 37700
training loss: 359.69397
itr: 37800
training loss: 376.8075
itr: 37900
training loss: 532.8222
itr: 38000
training loss: 520.2679
test...
mse per seq: 798.4041290283203
77.8603515625
112.30912780761719
135.19131469726562
```

```
143.19532775878906
157.2488555908203
172.59915161132812
psnr per frame: 24.924036
27.088968
25.53351
24.75127
24.465572
24.057709
23.647184
fmae per frame: 1739.9723
1285.313
1575.8988
1766.1805
1838.402
1933.0618
2040.9775
ssim per frame: 0.60406864
0.63566273
0.6123788
0.59741765
0.60313094
0.59713453
0.57868695
sharpness per frame: 63.083332
62.25
60.5
62.75
58.0
70.0
65.0
itr: 38100
training loss: 472.72906
itr: 38200
training loss: 513.8737
itr: 38300
training loss: 373.97333
```

```
itr: 38400
training loss: 576.955
itr: 38500
training loss: 499.31888
itr: 38600
training loss: 503.68372
itr: 38700
training loss: 388.03375
itr: 38800
training loss: 518.03906
itr: 38900
training loss: 540.26276
itr: 39000
training loss: 461.80972
test...
mse per seq: 798.0232162475586
77.92012023925781
112.19402313232422
134.95347595214844
143.27748107910156
157.22711181640625
172.4510040283203
psnr per frame: 24.920816
27.07753
25.533043
24.752745
24.458244
24.054508
23.64883
fmae per frame: 1737.9185
1284.6943
1572.9021
1762.374
1836.581
1931.7927
2039.166
ssim per frame: 0.60466105
```

```
0.63573486
0.61332756
0.59826285
0.6034733
0.5974737
0.579694
sharpness per frame: 62.333332
61.75
59.75
62.0
58.5
67.75
64.25
itr: 39100
training loss: 552.9893
itr: 39200
training loss: 516.97107
itr: 39300
training loss: 505.2718
itr: 39400
training loss: 430.54932
itr: 39500
training loss: 475.6776
itr: 39600
training loss: 510.28888
itr: 39700
training loss: 390.04138
itr: 39800
training loss: 474.85254
itr: 39900
training loss: 488.73392
itr: 40000
training loss: 501.8865
test...
mse per seq: 796.3706817626953
77.58734130859375
111.90777587890625
```

```
134.5198974609375
142.69216918945312
157.19903564453125
172.46446228027344
psnr per frame: 24.934668
27.100101
25.547577
24.771006
24.47975
24.058464
23.651093
fmae per frame: 1737.1185
1282.047
1571.9432
1761.5714
1834.4413
1932.637
2040.0712
ssim per frame: 0.6043793
0.63620543
0.6130665
0.5982951
0.6035719
0.59660476
0.578532
sharpness per frame: 62.25
60.75
61.75
62.25
55.25
68.0
65.5
itr: 40100
training loss: 521.85095
itr: 40200
training loss: 450.08664
itr: 40300
```

```
training loss: 487.7391
itr: 40400
training loss: 499.82095
itr: 40500
training loss: 473.98102
itr: 40600
training loss: 431.65747
itr: 40700
training loss: 596.17816
itr: 40800
training loss: 473.52365
itr: 40900
training loss: 384.16403
itr: 41000
training loss: 427.18033
test...
mse per seq: 800.6238861083984
77.92267608642578
112.1455307006836
135.04446411132812
143.57225036621094
158.1414031982422
173.7975616455078
psnr per frame: 24.913307
27.083588
25.539057
24.754269
24.453415
24.032518
23.617002
fmae per frame: 1742.1434
1285.1998
1574.6344
1765.4518
1841.1099
1939.3787
2047.0862
```

```
ssim per frame: 0.60366607
0.63527024
0.6127292
0.59770226
0.60224426
0.59643257
0.5776175
sharpness per frame: 62.458332
60.75
59.0
61.0
58.0
67.25
68.75
itr: 41100
training loss: 262.02362
itr: 41200
training loss: 490.65143
itr: 41300
training loss: 549.4933
itr: 41400
training loss: 502.78403
itr: 41500
training loss: 518.7157
itr: 41600
training loss: 455.3342
itr: 41700
training loss: 552.2749
itr: 41800
training loss: 541.9353
itr: 41900
training loss: 509.71497
itr: 42000
training loss: 485.50983
test...
mse per seq: 800.907356262207
77.79732513427734
```

```
112.38395690917969
135.4457244873047
143.60226440429688
158.0145721435547
173.66351318359375
psnr per frame: 24.91204
27.089035
25.52808
24.742117
24.454376
24.03784
23.62079
fmae per frame: 1742.8325
1284.1746
1576.1321
1768.3928
1841.5273
1938.592
2048.177
ssim per frame: 0.6033345
0.63560545
0.6123994
0.5970463
0.60251796
0.5956281
0.57680976
sharpness per frame: 63.791668
62.0
60.75
59.25
58.75
72.5
69.5
itr: 42100
training loss: 479.76144
itr: 42200
training loss: 515.57104
```

```
itr: 42300
training loss: 495.54834
itr: 42400
training loss: 554.85266
itr: 42500
training loss: 295.1585
itr: 42600
training loss: 836.2396
itr: 42700
training loss: 501.61725
itr: 42800
training loss: 475.38608
itr: 42900
training loss: 396.40158
itr: 43000
training loss: 479.04907
test...
mse per seq: 796.5778961181641
77.9365234375
112.14022827148438
134.9102020263672
142.61439514160156
156.64138793945312
172.3351593017578
psnr per frame: 24.935827
27.089432
25.541946
24.762402
24.486767
24.077885
23.656532
fmae per frame: 1738.6471
1285.8271
1575.8121
1765.775
1835.0361
1930.6802
```

```
2038.7518
ssim per frame: 0.60263914
0.6346492
0.6113884
0.5961476
0.60199445
0.5955416
0.57611316
sharpness per frame: 62.791668
63.0
59.0
58.5
58.5
70.75
67.0
itr: 43100
training loss: 485.56827
itr: 43200
training loss: 521.8591
itr: 43300
training loss: 544.1216
itr: 43400
training loss: 481.98615
itr: 43500
training loss: 287.615
itr: 43600
training loss: 460.42792
itr: 43700
training loss: 501.3339
itr: 43800
training loss: 417.74606
itr: 43900
training loss: 405.82153
itr: 44000
training loss: 527.9893
test...
mse per seq: 796.1739654541016
```

```
77.85900115966797
111.99816131591797
134.50299072265625
142.59507751464844
156.6546173095703
172.56411743164062
psnr per frame: 24.93471
27.086975
25.544912
24.772518
24.483587
24.073051
23.647211
fmae per frame: 1736.6992
1283.9352
1572.8602
1760.9833
1833.4692
1928.7286
2040.2184
ssim per frame: 0.6040351
0.63549393
0.6126591
0.59768695
0.60295653
0.59738696
0.57802707
sharpness per frame: 62.875
61.25
60.25
60.25
57.5
71.75
66.25
itr: 44100
training loss: 566.4892
itr: 44200
```

```
training loss: 548.1777
itr: 44300
training loss: 468.9513
itr: 44400
training loss: 365.18503
itr: 44500
training loss: 498.82092
itr: 44600
training loss: 431.00787
itr: 44700
training loss: 349.54425
itr: 44800
training loss: 380.13144
itr: 44900
training loss: 526.17017
itr: 45000
training loss: 532.633
test...
mse per seq: 799.6296920776367
77.78616333007812
111.98653411865234
134.97813415527344
143.56048583984375
157.61099243164062
173.70738220214844
psnr per frame: 24.923532
27.098248
25.549156
24.761797
24.458656
24.051292
23.622044
fmae per frame: 1741.6323
1284.9187
1574.1354
1766.2273
1842.003
```

```
1936.428
2046.0823
ssim per frame: 0.60323215
0.63477683
0.61192244
0.59758055
0.6021322
0.5962163
0.5767646
sharpness per frame: 62.708332
63.5
60.75
58.75
55.25
69.75
68.25
itr: 45100
training loss: 510.47406
itr: 45200
training loss: 526.5864
itr: 45300
training loss: 335.43356
itr: 45400
training loss: 487.42227
itr: 45500
training loss: 483.78058
itr: 45600
training loss: 310.50717
itr: 45700
training loss: 519.74524
itr: 45800
training loss: 329.17767
itr: 45900
training loss: 408.9945
itr: 46000
training loss: 507.55084
test...
```

```
mse per seq: 799.5398025512695
77.98863983154297
112.21209716796875
134.96742248535156
143.11685180664062
157.70175170898438
173.55303955078125
psnr per frame: 24.91862
27.080622
25.536264
24.757008
24.468182
24.045952
23.6237
fmae per frame: 1741.4459
1286.634
1575.1743
1765.5825
1838.195
1936.581
2046.5103
ssim per frame: 0.60307807
0.6346594
0.6120851
0.59707963
0.6024042
0.59561384
0.5766265
sharpness per frame: 63.625
63.75
62.75
59.5
58.0
70.25
67.5
itr: 46100
training loss: 510.21863
```

```
itr: 46200
training loss: 428.62112
itr: 46300
training loss: 525.9714
itr: 46400
training loss: 426.79755
itr: 46500
training loss: 479.05283
itr: 46600
training loss: 536.37524
itr: 46700
training loss: 484.1054
itr: 46800
training loss: 542.5338
itr: 46900
training loss: 482.78784
itr: 47000
training loss: 490.70032
test...
mse per seq: 803.8342361450195
78.24632263183594
112.76905059814453
135.66439819335938
143.99136352539062
158.6547088623047
174.50839233398438
psnr per frame: 24.897667
27.066113
25.51762
24.736256
24.44343
24.020294
23.602293
fmae per frame: 1745.4083
1287.8162
1578.8544
1769.1968
```

```
1841.9648
1941.3892
2053.2297
ssim per frame: 0.60208666
0.6343623
0.6112197
0.596293
0.60129905
0.5937459
0.5756002
sharpness per frame: 62.833332
63.75
60.0
59.25
56.25
73.25
64.5
itr: 47100
training loss: 524.7404
itr: 47200
training loss: 500.0579
itr: 47300
training loss: 467.9137
itr: 47400
training loss: 582.1778
itr: 47500
training loss: 491.75424
itr: 47600
training loss: 467.49472
itr: 47700
training loss: 368.61603
itr: 47800
training loss: 503.57907
itr: 47900
training loss: 492.7504
itr: 48000
training loss: 473.13
```

```
test...
mse per seq: 797.9512252807617
77.97615051269531
111.97991180419922
134.80215454101562
142.6219024658203
157.1453399658203
173.42576599121094
psnr per frame: 24.93052
27.086863
25.548836
24.76742
24.486313
24.064123
23.629564
fmae per frame: 1739.877
1286.3479
1574.1849
1764.9489
1835.1489
1932.8009
2045.8298
ssim per frame: 0.602755
0.63455075
0.61213267
0.59690714
0.60186
0.5949402
0.57613945
sharpness per frame: 62.375
63.5
60.0
60.5
55.0
69.75
65.5
itr: 48100
```

```
training loss: 493.70404
itr: 48200
training loss: 499.86984
itr: 48300
training loss: 505.10004
itr: 48400
training loss: 227.56067
itr: 48500
training loss: 572.78815
itr: 48600
training loss: 457.38
itr: 48700
training loss: 366.06815
itr: 48800
training loss: 513.6219
itr: 48900
training loss: 476.38733
itr: 49000
training loss: 385.30096
test...
mse per seq: 800.7155685424805
78.05304718017578
112.35356140136719
135.05519104003906
143.01409912109375
158.00454711914062
174.23512268066406
psnr per frame: 24.915192
27.080542
25.532043
24.757776
24.473087
24.038517
23.609192
fmae per frame: 1741.6913
1286.4082
1575.8058
```

```
1765.9424
1836.2819
1936.4825
2049.2268
ssim per frame: 0.6023362
0.63435394
0.61172146
0.5962038
0.60135496
0.59519136
0.57519174
sharpness per frame: 62.958332
62.25
60.25
57.75
59.25
71.5
66.75
itr: 49100
training loss: 370.90833
itr: 49200
training loss: 460.80392
itr: 49300
training loss: 468.92032
itr: 49400
training loss: 462.58615
itr: 49500
training loss: 392.36804
itr: 49600
training loss: 464.53668
itr: 49700
training loss: 504.86084
itr: 49800
training loss: 518.0708
itr: 49900
training loss: 449.73114
itr: 50000
```

```
training loss: 512.0157
test...
mse per seq: 801.7934646606445
78.1922378540039
112.7972412109375
135.43524169921875
143.50950622558594
158.07354736328125
173.7856903076172
psnr per frame: 24.905731
27.069374
25.515306
24.742048
24.455828
24.034554
23.617287
fmae per frame: 1742.6842
1287.542
1579.1423
1767.7224
1839.0249
1937.6475
2045.0259
ssim per frame: 0.6022141
0.63424045
0.6111366
0.5959304
0.6016419
0.59425277
0.57608247
sharpness per frame: 64.875
64.25
64.75
61.5
60.75
70.75
67.25
```

```
itr: 50100
training loss: 391.13577
itr: 50200
training loss: 538.4487
itr: 50300
training loss: 523.8171
itr: 50400
training loss: 460.09906
itr: 50500
training loss: 325.9261
itr: 50600
training loss: 488.0444
itr: 50700
training loss: 514.7142
itr: 50800
training loss: 529.39496
itr: 50900
training loss: 389.36572
itr: 51000
training loss: 404.09454
test...
mse per seq: 805.5397186279297
78.64335632324219
113.28341674804688
135.94119262695312
144.26248168945312
158.9196014404297
174.4896697998047
psnr per frame: 24.879654
27.034462
25.489687
24.720274
24.429367
24.008255
23.595871
fmae per frame: 1746.3218
1289.894
```

```
1580.3367
1769.3594
1844.1879
1943.3625
2050.79
ssim per frame: 0.6016692
0.63344777
0.61060065
0.59569776
0.60086113
0.59379286
0.575615
sharpness per frame: 66.041664
65.5
64.0
59.5
63.0
78.75
65.5
itr: 51100
training loss: 274.78082
itr: 51200
training loss: 525.4226
itr: 51300
training loss: 532.7853
itr: 51400
training loss: 466.59616
itr: 51500
training loss: 513.8923
itr: 51600
training loss: 538.3088
itr: 51700
training loss: 480.19226
itr: 51800
training loss: 455.1065
itr: 51900
training loss: 520.3291
```

```
itr: 52000
training loss: 497.4544
test...
mse per seq: 807.0249786376953
78.52592468261719
113.23321533203125
136.102783203125
144.67532348632812
159.23675537109375
175.2509765625
psnr per frame: 24.876715
27.04426
25.495567
24.71878
24.419106
24.001957
23.580614
fmae per frame: 1747.4199
1289.6907
1580.9036
1770.8864
1845.5508
1943.4622
2054.0269
ssim per frame: 0.6013964
0.63364625
0.61084473
0.59558177
0.6000916
0.59345347
0.57476056
sharpness per frame: 65.5
65.5
64.25
62.0
57.5
72.5
```

```
71.25
itr: 52100
training loss: 485.49323
itr: 52200
training loss: 492.07166
itr: 52300
training loss: 550.5392
itr: 52400
training loss: 512.96094
itr: 52500
training loss: 463.344
itr: 52600
training loss: 393.72214
itr: 52700
training loss: 453.54898
itr: 52800
training loss: 560.59705
itr: 52900
training loss: 468.9028
itr: 53000
training loss: 639.5153
test...
mse per seq: 796.4364547729492
78.0829849243164
112.36976623535156
134.77442932128906
142.3952178955078
156.53515625
172.27890014648438
psnr per frame: 24.930742
27.07373
25.528875
24.761242
24.488245
24.077816
23.654552
fmae per frame: 1737.1797
```

```
1286.645
1575.7129
1763.3937
1832.8552
1927.6082
2036.8632
ssim per frame: 0.6022967
0.634405
0.61103946
0.59621614
0.6012528
0.59480506
0.5760617
sharpness per frame: 65.041664
64.5
64.0
59.0
59.0
73.75
70.0
itr: 53100
training loss: 516.09033
itr: 53200
training loss: 498.78632
itr: 53300
training loss: 395.81134
itr: 53400
training loss: 420.99384
itr: 53500
training loss: 476.62936
itr: 53600
training loss: 490.12173
itr: 53700
training loss: 511.52237
itr: 53800
training loss: 438.44617
itr: 53900
```

```
training loss: 490.22443
itr: 54000
training loss: 504.57367
test...
mse per seq: 801.7300033569336
78.35816192626953
112.64103698730469
135.30767822265625
143.53146362304688
157.994384765625
173.89727783203125
psnr per frame: 24.905748
27.058973
25.519508
24.7467
24.455416
24.038574
23.615322
fmae per frame: 1741.5775
1288.0427
1576.6238
1765.2952
1837.5017
1935.0825
2046.9177
ssim per frame: 0.6016586
0.63371134
0.61139023
0.59616625
0.6009816
0.59348375
0.57421845
sharpness per frame: 63.708332
63.0
63.0
63.0
57.5
```

```
74.25
61.5
itr: 54100
training loss: 481.69833
itr: 54200
training loss: 487.15936
itr: 54300
training loss: 398.64786
itr: 54400
training loss: 488.5155
itr: 54500
training loss: 359.9861
itr: 54600
training loss: 376.8357
itr: 54700
training loss: 547.1493
itr: 54800
training loss: 531.3865
itr: 54900
training loss: 539.05585
itr: 55000
training loss: 470.24402
test...
mse per seq: 799.0344772338867
78.18267059326172
112.63613891601562
135.05934143066406
142.88331604003906
157.29922485351562
172.97378540039062
psnr per frame: 24.91601
27.06596
25.516798
24.749725
24.472273
24.054922
23.63639
```

```
fmae per frame: 1739.8031
1287.0674
1577.5935
1765.4878
1835.0764
1931.9763
2041.6174
ssim per frame: 0.6025903
0.63467
0.6118392
0.5964901
0.6018177
0.59472257
0.5760025
sharpness per frame: 63.916668
64.25
61.0
56.5
60.0
73.5
68.25
itr: 55100
training loss: 468.88025
itr: 55200
training loss: 489.41235
itr: 55300
training loss: 362.365
itr: 55400
training loss: 516.97577
itr: 55500
training loss: 540.3285
itr: 55600
training loss: 506.9512
itr: 55700
training loss: 441.58337
itr: 55800
training loss: 523.95337
```

```
itr: 55900
training loss: 820.9183
itr: 56000
training loss: 504.5814
test...
mse per seq: 801.9532623291016
78.39905548095703
112.4972915649414
135.11801147460938
143.25938415527344
158.02243041992188
174.65708923339844
psnr per frame: 24.903215
27.053867
25.52266
24.748852
24.461985
24.036251
23.595688
fmae per frame: 1741.8457
1288.2664
1575.7842
1764.726
1836.6548
1935.8745
2049.7688
ssim per frame: 0.60107476
0.63350075
0.6107271
0.5953683
0.6002633
0.5931457
0.5734433
sharpness per frame: 64.625
64.0
62.75
58.75
```

```
58.25
77.75
66.25
itr: 56100
training loss: 521.19006
itr: 56200
training loss: 465.3199
itr: 56300
training loss: 454.79694
itr: 56400
training loss: 539.759
itr: 56500
training loss: 419.99493
itr: 56600
training loss: 267.72205
itr: 56700
training loss: 530.348
itr: 56800
training loss: 461.66458
itr: 56900
training loss: 457.21408
itr: 57000
training loss: 509.97406
test...
mse per seq: 804.6391754150391
78.61829376220703
113.0085220336914
135.60751342773438
143.85292053222656
158.7637176513672
174.7882080078125
psnr per frame: 24.889093
27.045433
25.504688
24.733606
24.443525
24.01537
```

```
23.591934
fmae per frame: 1745.2831
1290.5616
1579.9583
1768.7399
1840.6337
1940.0532
2051.751
ssim per frame: 0.6006953
0.63334256
0.6102027
0.5949552
0.6002092
0.5923599
0.5731023
sharpness per frame: 65.833336
65.5
63.25
63.5
58.5
72.75
71.5
itr: 57100
training loss: 350.22168
itr: 57200
training loss: 372.28415
itr: 57300
training loss: 597.8661
itr: 57400
training loss: 469.49014
itr: 57500
training loss: 401.02243
itr: 57600
training loss: 480.25427
itr: 57700
training loss: 453.37497
itr: 57800
```

```
training loss: 491.03076
itr: 57900
training loss: 503.58444
itr: 58000
training loss: 502.276
test...
mse per seq: 808.0139007568359
78.54337310791016
113.41919708251953
136.5235595703125
144.5208740234375
159.65151977539062
175.35537719726562
psnr per frame: 24.876184
27.053339
25.492123
24.70966
24.427036
23.995031
23.579918
fmae per frame: 1749.4684
1289.8762
1582.7804
1775.0585
1845.5055
1946.4775
2057.1128
ssim per frame: 0.600511
0.6329772
0.60981375
0.59421444
0.5998636
0.5921414
0.57405573
sharpness per frame: 64.375
64.25
62.75
```

```
60.5
60.0
77.0
61.75
itr: 58100
training loss: 434.34988
itr: 58200
training loss: 488.48032
itr: 58300
training loss: 764.07715
itr: 58400
training loss: 524.9911
itr: 58500
training loss: 858.5957
itr: 58600
training loss: 489.72644
itr: 58700
training loss: 440.9257
itr: 58800
training loss: 399.404
itr: 58900
training loss: 498.5635
itr: 59000
training loss: 502.85046
test...
mse per seq: 803.7328643798828
78.6171875
113.08323669433594
135.64292907714844
144.0697479248047
158.564453125
173.75531005859375
psnr per frame: 24.891577
27.041313
25.501461
24.732376
24.435959
```

```
24.020756
23.617601
fmae per frame: 1743.9935
1290.1724
1579.9584
1767.9633
1842.0623
1939.4973
2044.3075
ssim per frame: 0.6009404
0.63334846
0.61030596
0.5952305
0.6000173
0.5921584
0.5745815
sharpness per frame: 65.5
65.0
63.75
65.75
58.75
75.5
64.25
itr: 59100
training loss: 260.45493
itr: 59200
training loss: 475.88632
itr: 59300
training loss: 477.65213
itr: 59400
training loss: 498.13705
itr: 59500
training loss: 522.71796
itr: 59600
training loss: 418.85074
itr: 59700
training loss: 561.4453
```

```
itr: 59800
training loss: 375.46545
itr: 59900
training loss: 829.44244
itr: 60000
training loss: 403.53632
test...
mse per seq: 804.0425109863281
78.55010986328125
113.12799072265625
135.67527770996094
143.81053161621094
158.8050537109375
174.07354736328125
psnr per frame: 24.893011
27.049915
25.500793
24.733606
24.445473
24.016615
23.611662
fmae per frame: 1745.1686
1289.9333
1580.8186
1769.331
1840.7838
1941.883
2048.2622
ssim per frame: 0.59986013
0.6329394
0.6095397
0.5949362
0.5991486
0.5902046
0.5723927
sharpness per frame: 65.708336
67.5
```

```
62.25
63.5
57.5
77.0
66.5
itr: 60100
training loss: 499.71176
itr: 60200
training loss: 544.637
itr: 60300
training loss: 526.09406
itr: 60400
training loss: 502.92007
itr: 60500
training loss: 455.7149
itr: 60600
training loss: 485.27066
itr: 60700
training loss: 445.4669
itr: 60800
training loss: 393.60263
itr: 60900
training loss: 456.94995
itr: 61000
training loss: 459.77164
test...
mse per seq: 811.0860061645508
78.79621124267578
113.65684509277344
136.9710693359375
145.07310485839844
160.06161499023438
176.52716064453125
psnr per frame: 24.86085
27.041256
25.482956
24.694843
```

```
24.410717
23.983265
23.552061
fmae per frame: 1753.0497
1292.8643
1586.0028
1778.8289
1849.3812
1948.852
2062.3682
ssim per frame: 0.59892195
0.63209987
0.60841584
0.59305394
0.5983646
0.59098846
0.5706088
sharpness per frame: 65.458336
67.5
63.25
57.0
58.5
77.75
68.75
itr: 61100
training loss: 385.42313
itr: 61200
training loss: 496.1048
itr: 61300
training loss: 487.79462
itr: 61400
training loss: 395.28912
itr: 61500
training loss: 424.6792
itr: 61600
training loss: 483.36566
itr: 61700
```

```
training loss: 515.0839
itr: 61800
training loss: 519.45526
itr: 61900
training loss: 483.13354
itr: 62000
training loss: 494.3284
test...
mse per seq: 800.6702270507812
78.45549011230469
112.86968994140625
135.25892639160156
143.25645446777344
157.59405517578125
173.23561096191406
psnr per frame: 24.910242
27.056791
25.512205
24.747906
24.46469
24.04897
23.630882
fmae per frame: 1740.9323
1288.7201
1578.3652
1766.8635
1836.584
1933.1499
2041.9098
ssim per frame: 0.60023856
0.6328485
0.6097797
0.59491205
0.5991238
0.59145397
0.5733132
sharpness per frame: 64.708336
```

```
65.75
65.25
61.0
55.25
73.5
67.5
itr: 62100
training loss: 455.71838
itr: 62200
training loss: 528.37897
itr: 62300
training loss: 507.04813
itr: 62400
training loss: 491.29913
itr: 62500
training loss: 362.50903
itr: 62600
training loss: 482.77942
itr: 62700
training loss: 536.94
itr: 62800
training loss: 494.77777
itr: 62900
training loss: 470.84232
itr: 63000
training loss: 459.04236
test...
mse per seq: 804.5187225341797
78.6386489868164
113.11450958251953
135.84893798828125
143.593994140625
158.52554321289062
174.79708862304688
psnr per frame: 24.886972
27.04065
25.498398
```

```
24.723732
24.449392
24.021076
23.588587
fmae per frame: 1744.5717
1290.1036
1579.637
1769.7151
1838.0499
1939.4359
2050.4885
ssim per frame: 0.59990984
0.63290983
0.60968864
0.59361964
0.5998067
0.5913907
0.57204354
sharpness per frame: 65.166664
65.75
63.75
62.5
56.5
76.5
66.0
itr: 63100
training loss: 508.03918
itr: 63200
training loss: 465.7648
itr: 63300
training loss: 350.30048
itr: 63400
training loss: 520.7924
itr: 63500
training loss: 498.434
itr: 63600
training loss: 364.78867
```

```
itr: 63700
training loss: 503.05396
itr: 63800
training loss: 510.4781
itr: 63900
training loss: 602.4108
itr: 64000
training loss: 509.98483
test...
mse per seq: 804.8649749755859
78.7734603881836
113.0124282836914
135.3869171142578
143.88528442382812
158.80538940429688
175.00149536132812
psnr per frame: 24.879768
27.022064
25.497036
24.733479
24.437746
24.007795
23.58049
fmae per frame: 1743.4698
1290.1531
1577.214
1764.5333
1838.9592
1938.801
2051.1592
ssim per frame: 0.6010373
0.63356644
0.61037666
0.5957671
0.60043365
0.5924592
0.5736208
```

```
sharpness per frame: 65.208336
65.0
63.75
61.0
59.5
74.25
67.75
itr: 64100
training loss: 406.3302
itr: 64200
training loss: 522.8631
itr: 64300
training loss: 485.95853
itr: 64400
training loss: 383.76105
itr: 64500
training loss: 352.56644
itr: 64600
training loss: 426.05905
itr: 64700
training loss: 449.83563
itr: 64800
training loss: 499.4204
itr: 64900
training loss: 472.56693
itr: 65000
training loss: 497.5575
test...
mse per seq: 804.6191101074219
78.72581481933594
113.11383056640625
136.0034942626953
143.836181640625
158.64955139160156
174.2902374267578
psnr per frame: 24.889246
27.040749
```

```
25.501652
24.723171
24.445425
24.020449
23.604027
fmae per frame: 1744.7653
1290.6848
1580.3077
1770.7092
1839.848
1940.021
2047.0205
ssim per frame: 0.60027397
0.63286257
0.6095241
0.5947618
0.59928656
0.5917153
0.5734934
sharpness per frame: 65.375
65.75
64.0
60.5
59.25
78.75
64.0
itr: 65100
training loss: 431.01584
itr: 65200
training loss: 408.8974
itr: 65300
training loss: 340.9402
itr: 65400
training loss: 376.21115
itr: 65500
training loss: 474.1361
^CTraceback (most recent call last):
```

```
  File "/home/sunfengzhen/pycharm/typhoon_predict/typhoon_train.py", line 348, in <module>
    train(model, train_input_handle, test_input_handle, epochs, display, test_every) # model elesun
  File "/home/sunfengzhen/pycharm/typhoon_predict/typhoon_train.py", line 231, in train
    cost = model.train(ims, lr, mask_true) #elesun not train only test
  File "/home/sunfengzhen/pycharm/typhoon_predict/typhoon_train.py", line 147, in train
    loss, _ = self.sess.run((self.loss_train, self.train_op), feed_dict)
  File "/usr/local/lib/python2.7/dist-packages/tensorflow/python/client/session.py", line 929, in run
    run_metadata_ptr)
  File "/usr/local/lib/python2.7/dist-packages/tensorflow/python/client/session.py", line 1152, in _run
    feed_dict_tensor, options, run_metadata)
  File "/usr/local/lib/python2.7/dist-packages/tensorflow/python/client/session.py", line 1328, in _do_run
    run_metadata)
  File "/usr/local/lib/python2.7/dist-packages/tensorflow/python/client/session.py", line 1334, in _do_call
    return fn(*args)
  File "/usr/local/lib/python2.7/dist-packages/tensorflow/python/client/session.py", line 1319, in _run_fn
    options, feed_dict, fetch_list, target_list, run_metadata)
  File "/usr/local/lib/python2.7/dist-packages/tensorflow/python/client/session.py", line 1407, in _call_tf_sessionrun
    run_metadata)
KeyboardInterrupt

Process finished with exit code 1
```