Lab07

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This lab employs on a generative model, Cycle-GANs. Cycle-GAN learn transformation between images of different styles.This lab consists of two parts. One being to transform horse2zebra and one being to transform AIT ICT student faces. Images, loss of train and test images can be found below.

Part1

After training the model with horse2zebra dataset , the following is the last few rows of loss log.

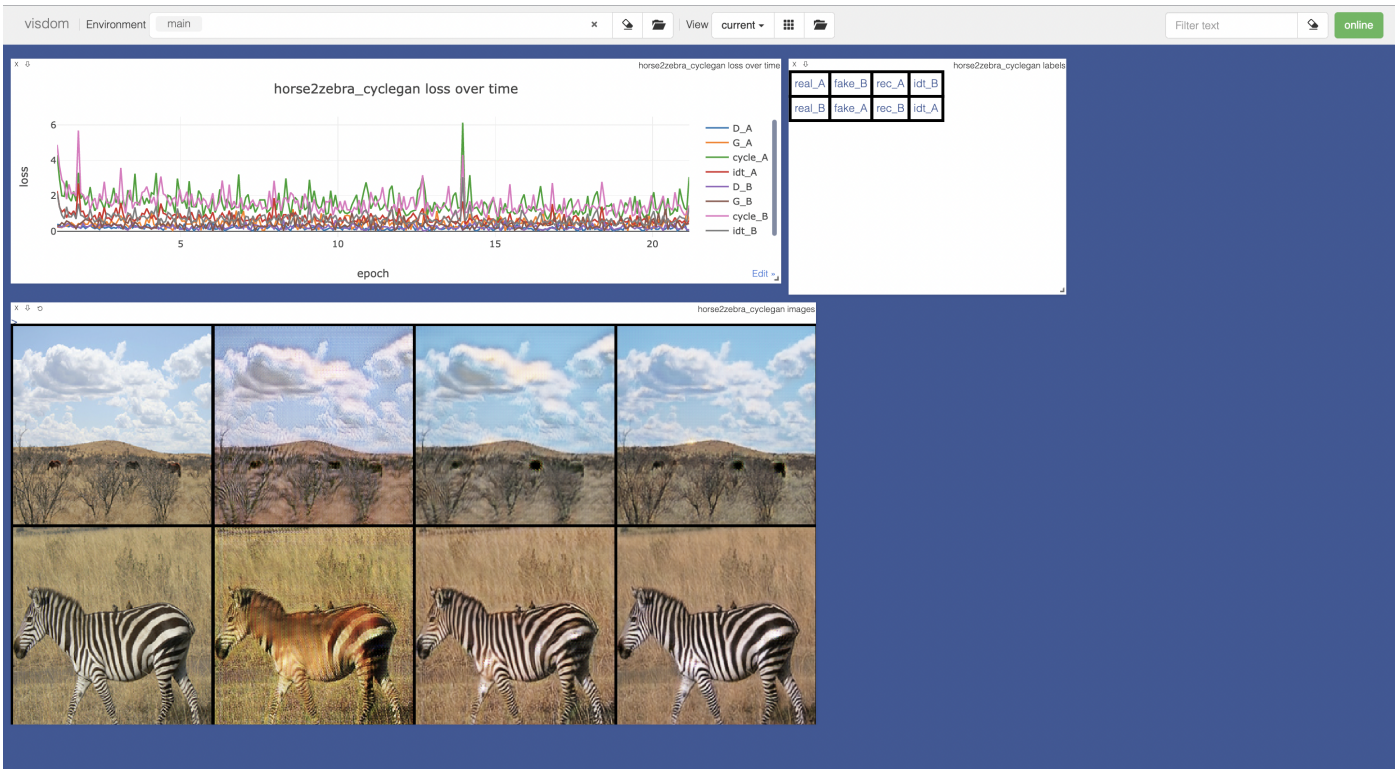
```
root@87e2c59bad03:~/Lab08/pytorch-CycleGAN-and-pix2pix# python3 train.py --dataroot
./datasets/horse2zebra --name horse2zebra_cyclegan --model cycle_gan --gpu_ids 1
Warning: wandb package cannot be found. The option "--use_wandb" will result in
error.
---------------- Options ---------------
               batch_size: 1
                    beta1: 0.5
          checkpoints_dir: ./checkpoints
           continue_train: False
                crop_size: 256
                 dataroot: ./datasets/horse2zebra             [default: None]
             dataset_mode: unaligned
                direction: AtoB
              display_env: main
             display_freq: 400
               display_id: 1
            display_ncols: 4
             display_port: 8097
           display_server: http://localhost
          display_winsize: 256
                    epoch: latest
              epoch_count: 1
                 gan_mode: lsgan
                  gpu_ids: 1                                [default: 0]
                init_gain: 0.02
                init_type: normal
                 input_nc: 3
                  isTrain: True                            [default: None]
                 lambda_A: 10.0
                 lambda_B: 10.0
           lambda_identity: 0.5
                 load_iter: 0                               [default: 0]
                 load_size: 286
                        lr: 0.0002
            lr_decay_iters: 50
                 lr_policy: linear
          max_dataset_size: inf
                    model: cycle_gan
                 n_epochs: 100
           n_epochs_decay: 100
               n_layers_D: 3
```

```
                    name: horse2zebra_cyclegan                  [default:
experiment_name]
                     ndf: 64
                    netD: basic
                    netG: resnet_9blocks
                     ngf: 64
              no_dropout: True
                 no_flip: False
                 no_html: False
                    norm: instance
             num_threads: 4
               output_nc: 3
                   phase: train
               pool_size: 50
              preprocess: resize_and_crop
              print_freq: 100
            save_by_iter: False
         save_epoch_freq: 5
        save_latest_freq: 5000
          serial_batches: False
                  suffix:
        update_html_freq: 1000
                use_wandb: False
                  verbose: False
----------------- End -------------------
/usr/local/lib/python3.8/dist-packages/torchvision/transforms/transforms.py:287:
UserWarning: Argument interpolation should be of type InterpolationMode instead of
int. Please, use InterpolationMode enum.
  warnings.warn(
dataset [UnalignedDataset] was created
The number of training images = 1334
initialize network with normal
initialize network with normal
initialize network with normal
initialize network with normal
model [CycleGANModel] was created
---------- Networks initialized -------------
[Network G_A] Total number of parameters : 11.378 M
[Network G_B] Total number of parameters : 11.378 M
[Network D_A] Total number of parameters : 2.765 M
[Network D_B] Total number of parameters : 2.765 M
-----------------------------------------------
Setting up a new session...
create web directory ./checkpoints/horse2zebra_cyclegan/web...
/usr/local/lib/python3.8/dist-packages/torch/optim/lr_scheduler.py:129:
UserWarning: Detected call of `lr_scheduler.step()` before `optimizer.step()`. In
PyTorch 1.1.0 and later, you should call them in the opposite order:
`optimizer.step()` before `lr_scheduler.step()`.  Failure to do this will result in
PyTorch skipping the first value of the learning rate schedule. See more details at
https://pytorch.org/docs/stable/optim.html#how-to-adjust-learning-rate
  warnings.warn("Detected call of `lr_scheduler.step()` before `optimizer.step()`.
"
learning rate 0.0002000 -> 0.0002000

.
.
.
.
.
.
```

```
(epoch: 20, iters: 54, time: 0.291, data: 0.001) D_A: 0.219 G_A: 0.153 cycle_A:
2.205 idt_A: 0.459 D_B: 0.274 G_B: 0.710 cycle_B: 1.311 idt_B: 1.138
(epoch: 20, iters: 154, time: 0.292, data: 0.002) D_A: 0.108 G_A: 0.528 cycle_A:
1.187 idt_A: 0.603 D_B: 0.192 G_B: 0.237 cycle_B: 1.189 idt_B: 0.514
(epoch: 20, iters: 254, time: 0.761, data: 0.002) D_A: 0.115 G_A: 0.635 cycle_A:
0.928 idt_A: 0.471 D_B: 0.293 G_B: 1.031 cycle_B: 1.278 idt_B: 0.404
(epoch: 20, iters: 354, time: 0.291, data: 0.001) D_A: 0.246 G_A: 0.154 cycle_A:
1.421 idt_A: 0.480 D_B: 0.229 G_B: 0.336 cycle_B: 1.614 idt_B: 0.473
(epoch: 20, iters: 454, time: 0.292, data: 0.001) D_A: 0.080 G_A: 0.462 cycle_A:
1.829 idt_A: 0.782 D_B: 0.036 G_B: 0.558 cycle_B: 2.004 idt_B: 0.876
(epoch: 20, iters: 554, time: 0.296, data: 0.001) D_A: 0.135 G_A: 0.610 cycle_A:
0.940 idt_A: 0.439 D_B: 0.381 G_B: 1.336 cycle_B: 1.265 idt_B: 0.448
(epoch: 20, iters: 654, time: 0.737, data: 0.001) D_A: 0.310 G_A: 0.529 cycle_A:
1.868 idt_A: 0.691 D_B: 0.120 G_B: 0.098 cycle_B: 1.515 idt_B: 0.719
(epoch: 20, iters: 754, time: 0.294, data: 0.002) D_A: 0.130 G_A: 0.587 cycle_A:
0.925 idt_A: 0.527 D_B: 0.348 G_B: 0.475 cycle_B: 1.310 idt_B: 0.419
(epoch: 20, iters: 854, time: 0.292, data: 0.001) D_A: 0.171 G_A: 0.337 cycle_A:
1.019 idt_A: 0.516 D_B: 0.247 G_B: 0.353 cycle_B: 1.187 idt_B: 0.487
(epoch: 20, iters: 954, time: 0.291, data: 0.002) D_A: 0.339 G_A: 0.223 cycle_A:
1.277 idt_A: 0.772 D_B: 0.472 G_B: 0.217 cycle_B: 2.204 idt_B: 0.551
(epoch: 20, iters: 1054, time: 0.439, data: 0.001) D_A: 0.033 G_A: 0.701 cycle_A:
1.106 idt_A: 0.509 D_B: 0.122 G_B: 0.614 cycle_B: 1.446 idt_B: 0.651
(epoch: 20, iters: 1154, time: 0.292, data: 0.001) D_A: 0.115 G_A: 0.322 cycle_A:
2.406 idt_A: 0.602 D_B: 0.161 G_B: 0.394 cycle_B: 1.473 idt_B: 0.847
(epoch: 20, iters: 1254, time: 0.293, data: 0.001) D_A: 0.247 G_A: 0.225 cycle_A:
1.775 idt_A: 0.482 D_B: 0.166 G_B: 0.111 cycle_B: 1.145 idt_B: 0.753
saving the model at the end of epoch 20, iters 26680
End of epoch 20 / 200    Time Taken: 365 sec
learning rate 0.0002000 -> 0.0002000
```

Result



Part2

In this part, I added some dataset path in run.sh from my diractoy on the puffer: "DS_DIR=/home/fidji/mdailey/Datasets/ait-ict". Then, I downloaded the ait-ict faces dataset and celeba faces dataset in the VScode by diving trainA folder and trainB folder for the collection of ait-ict faces images and celeba faces images respectively. Afterwards, I used the following command to transform ait-ict faces and the faces from celeba dataset.

python3 train.py --dataroot ./datasets/ait-ict --name ait-ict-celebA_cyclegan --model cycle_gan --gpu_ids 1 --display_port 8090

After training the model with ait-ict and celeba dataset , the following cell is the last few rows of loss log.

```
st122314@c62b2f4dc41a:~/Lab08/pytorch-CycleGAN-and-pix2pix$ python3 train.py --
dataroot ./datasets/ait-ict --name ait-ict-celebA_cyclegan --model cycle_gan --
gpu_ids 1  --display_port 8097
Warning: wandb package cannot be found. The option "--use_wandb" will result in
error.
----------------- Options ---------------
               batch_size: 1
                    beta1: 0.5
          checkpoints_dir: ./checkpoints
           continue_train: False
                crop_size: 256
                 dataroot: ./datasets/ait-ict                  [default: None]
             dataset_mode: unaligned
                direction: AtoB
              display_env: main
             display_freq: 400
               display_id: 1
            display_ncols: 4
             display_port: 8097
           display_server: http://localhost
          display_winsize: 256
                    epoch: latest
              epoch_count: 1
                 gan_mode: lsgan
                  gpu_ids: 1                                   [default: 0]
                init_gain: 0.02
                init_type: normal
                 input_nc: 3
                  isTrain: True                                [default: None]
                 lambda_A: 10.0
                 lambda_B: 10.0
           lambda_identity: 0.5
                 load_iter: 0                                  [default: 0]
                 load_size: 286
                        lr: 0.0002
            lr_decay_iters: 50
                 lr_policy: linear
          max_dataset_size: inf
                     model: cycle_gan
                  n_epochs: 100
            n_epochs_decay: 100
                n_layers_D: 3
                      name: ait-ict-celebA_cyclegan             [default:
experiment_name]
                       ndf: 64
```

```
                    netD: basic
                    netG: resnet_9blocks
                     ngf: 64
              no_dropout: True
                 no_flip: False
                 no_html: False
                    norm: instance
             num_threads: 4
               output_nc: 3
                   phase: train
                pool_size: 50
              preprocess: resize_and_crop
              print_freq: 100
            save_by_iter: False
         save_epoch_freq: 5
        save_latest_freq: 5000
          serial_batches: False
                  suffix:
        update_html_freq: 1000
               use_wandb: False
                 verbose: False
----------------- End -------------------
/usr/local/lib/python3.8/dist-packages/torchvision/transforms/transforms.py:287:
UserWarning: Argument interpolation should be of type InterpolationMode instead of
int. Please, use InterpolationMode enum.
  warnings.warn(
dataset [UnalignedDataset] was created
The number of training images = 202599
initialize network with normal
initialize network with normal
initialize network with normal
initialize network with normal
model [CycleGANModel] was created
---------- Networks initialized -------------
[Network G_A] Total number of parameters : 11.378 M
[Network G_B] Total number of parameters : 11.378 M
[Network D_A] Total number of parameters : 2.765 M
[Network D_B] Total number of parameters : 2.765 M
-----------------------------------------------
Setting up a new session...
create web directory ./checkpoints/ait-ict-celebA_cyclegan/web...
/usr/local/lib/python3.8/dist-packages/torch/optim/lr_scheduler.py:129:
UserWarning: Detected call of `lr_scheduler.step()` before `optimizer.step()`. In
PyTorch 1.1.0 and later, you should call them in the opposite order:
`optimizer.step()` before `lr_scheduler.step()`.  Failure to do this will result in
PyTorch skipping the first value of the learning rate schedule. See more details at
https://pytorch.org/docs/stable/optim.html#how-to-adjust-learning-rate
  warnings.warn("Detected call of `lr_scheduler.step()` before `optimizer.step()`.
"
learning rate 0.0002000 -> 0.0002000
(epoch: 1, iters: 100, time: 0.221, data: 0.269) D_A: 0.304 G_A: 0.552 cycle_A:
1.363 idt_A: 0.753 D_B: 0.315 G_B: 0.886 cycle_B: 1.766 idt_B: 0.693
(epoch: 1, iters: 200, time: 0.227, data: 0.003) D_A: 0.196 G_A: 0.520 cycle_A:
4.328 idt_A: 0.811 D_B: 0.214 G_B: 0.994 cycle_B: 1.789 idt_B: 1.963
(epoch: 1, iters: 300, time: 0.230, data: 0.003) D_A: 0.184 G_A: 0.257 cycle_A:
1.467 idt_A: 0.836 D_B: 0.116 G_B: 0.571 cycle_B: 1.756 idt_B: 0.731
(epoch: 1, iters: 400, time: 0.721, data: 0.003) D_A: 0.356 G_A: 0.946 cycle_A:
1.430 idt_A: 1.252 D_B: 0.433 G_B: 0.135 cycle_B: 4.583 idt_B: 0.665
(epoch: 1, iters: 500, time: 0.252, data: 0.003) D_A: 0.161 G_A: 0.370 cycle_A:
0.871 idt_A: 1.050 D_B: 0.122 G_B: 0.562 cycle_B: 1.408 idt_B: 0.416
```

```
(epoch: 1, iters: 600, time: 0.252, data: 0.003) D_A: 0.135 G_A: 0.839 cycle_A:
2.665 idt_A: 0.628 D_B: 0.103 G_B: 0.924 cycle_B: 1.579 idt_B: 1.354
(epoch: 1, iters: 700, time: 0.247, data: 0.003) D_A: 0.171 G_A: 0.739 cycle_A:
1.412 idt_A: 0.695 D_B: 0.061 G_B: 0.613 cycle_B: 1.290 idt_B: 0.687
(epoch: 1, iters: 800, time: 0.490, data: 0.002) D_A: 0.116 G_A: 0.765 cycle_A:
1.633 idt_A: 0.731 D_B: 0.262 G_B: 0.437 cycle_B: 1.523 idt_B: 0.793
(epoch: 1, iters: 900, time: 0.252, data: 0.003) D_A: 0.286 G_A: 0.215 cycle_A:
1.040 idt_A: 1.190 D_B: 0.192 G_B: 0.431 cycle_B: 2.396 idt_B: 0.472
(epoch: 1, iters: 1000, time: 0.255, data: 0.003) D_A: 0.101 G_A: 0.457 cycle_A:
1.622 idt_A: 0.719 D_B: 0.142 G_B: 0.368 cycle_B: 1.638 idt_B: 0.493
(epoch: 1, iters: 1100, time: 0.256, data: 0.003) D_A: 0.096 G_A: 0.823 cycle_A:
1.070 idt_A: 0.680 D_B: 0.042 G_B: 0.617 cycle_B: 2.221 idt_B: 0.363
(epoch: 1, iters: 1200, time: 0.492, data: 0.003) D_A: 0.055 G_A: 0.707 cycle_A:
0.946 idt_A: 1.323 D_B: 0.125 G_B: 1.037 cycle_B: 3.096 idt_B: 0.416
(epoch: 1, iters: 1300, time: 0.255, data: 0.002) D_A: 0.087 G_A: 0.728 cycle_A:
1.317 idt_A: 0.955 D_B: 0.063 G_B: 0.883 cycle_B: 1.946 idt_B: 0.707
(epoch: 1, iters: 1400, time: 0.256, data: 0.003) D_A: 0.109 G_A: 1.144 cycle_A:
0.768 idt_A: 1.407 D_B: 0.098 G_B: 0.876 cycle_B: 2.753 idt_B: 0.291
(epoch: 1, iters: 1500, time: 0.254, data: 0.002) D_A: 0.212 G_A: 0.276 cycle_A:
1.902 idt_A: 0.824 D_B: 0.572 G_B: 2.191 cycle_B: 1.918 idt_B: 0.848
(epoch: 1, iters: 1600, time: 0.549, data: 0.002) D_A: 0.124 G_A: 0.402 cycle_A:
2.451 idt_A: 1.733 D_B: 0.047 G_B: 0.815 cycle_B: 3.447 idt_B: 1.199
(epoch: 1, iters: 1700, time: 0.249, data: 0.002) D_A: 0.443 G_A: 0.642 cycle_A:
0.943 idt_A: 0.525 D_B: 0.147 G_B: 0.052 cycle_B: 1.017 idt_B: 0.402
(epoch: 1, iters: 1800, time: 0.253, data: 0.002) D_A: 0.269 G_A: 0.362 cycle_A:
0.960 idt_A: 0.707 D_B: 0.318 G_B: 0.687 cycle_B: 1.444 idt_B: 0.452
(epoch: 1, iters: 1900, time: 0.254, data: 0.002) D_A: 0.104 G_A: 0.403 cycle_A:
1.347 idt_A: 0.521 D_B: 0.073 G_B: 0.510 cycle_B: 1.262 idt_B: 0.559
(epoch: 1, iters: 2000, time: 0.686, data: 0.002) D_A: 0.042 G_A: 1.116 cycle_A:
0.761 idt_A: 0.558 D_B: 0.093 G_B: 0.590 cycle_B: 1.216 idt_B: 0.324
(epoch: 1, iters: 2100, time: 0.256, data: 0.002) D_A: 0.205 G_A: 0.399 cycle_A:
0.773 idt_A: 0.924 D_B: 0.276 G_B: 0.181 cycle_B: 3.529 idt_B: 0.372
(epoch: 1, iters: 2200, time: 0.257, data: 0.002) D_A: 0.140 G_A: 0.499 cycle_A:
0.749 idt_A: 0.734 D_B: 0.124 G_B: 0.921 cycle_B: 1.473 idt_B: 0.445
(epoch: 1, iters: 2300, time: 0.255, data: 0.002) D_A: 0.092 G_A: 1.152 cycle_A:
0.806 idt_A: 0.771 D_B: 0.137 G_B: 0.218 cycle_B: 1.935 idt_B: 0.366
(epoch: 1, iters: 2400, time: 0.517, data: 0.002) D_A: 0.273 G_A: 0.748 cycle_A:
0.849 idt_A: 0.836 D_B: 0.149 G_B: 0.557 cycle_B: 1.591 idt_B: 0.499
(epoch: 1, iters: 2500, time: 0.254, data: 0.002) D_A: 0.062 G_A: 0.688 cycle_A:
0.958 idt_A: 0.763 D_B: 0.044 G_B: 0.563 cycle_B: 2.274 idt_B: 0.369
(epoch: 1, iters: 2600, time: 0.253, data: 0.002) D_A: 0.119 G_A: 0.343 cycle_A:
0.840 idt_A: 0.557 D_B: 0.097 G_B: 1.108 cycle_B: 1.482 idt_B: 0.371
(epoch: 1, iters: 2700, time: 0.259, data: 0.002) D_A: 0.214 G_A: 0.290 cycle_A:
0.976 idt_A: 0.876 D_B: 0.114 G_B: 0.596 cycle_B: 1.812 idt_B: 0.415
(epoch: 1, iters: 2800, time: 0.532, data: 0.002) D_A: 0.116 G_A: 0.434 cycle_A:
0.760 idt_A: 0.648 D_B: 0.197 G_B: 0.509 cycle_B: 1.833 idt_B: 0.397
(epoch: 1, iters: 2900, time: 0.255, data: 0.002) D_A: 0.203 G_A: 0.718 cycle_A:
0.834 idt_A: 0.667 D_B: 0.118 G_B: 0.593 cycle_B: 1.435 idt_B: 0.369
(epoch: 1, iters: 3000, time: 0.253, data: 0.002) D_A: 0.224 G_A: 0.138 cycle_A:
1.959 idt_A: 0.838 D_B: 0.168 G_B: 0.554 cycle_B: 1.369 idt_B: 0.920
(epoch: 1, iters: 3100, time: 0.256, data: 0.002) D_A: 0.138 G_A: 0.085 cycle_A:
2.084 idt_A: 0.629 D_B: 0.208 G_B: 0.572 cycle_B: 1.233 idt_B: 0.958
(epoch: 1, iters: 3200, time: 0.517, data: 0.002) D_A: 0.271 G_A: 0.437 cycle_A:
1.156 idt_A: 0.491 D_B: 0.265 G_B: 1.871 cycle_B: 1.459 idt_B: 0.473
(epoch: 1, iters: 3300, time: 0.254, data: 0.002) D_A: 0.039 G_A: 0.935 cycle_A:
0.904 idt_A: 0.584 D_B: 0.285 G_B: 2.079 cycle_B: 1.482 idt_B: 0.550
(epoch: 1, iters: 3400, time: 0.254, data: 0.002) D_A: 0.063 G_A: 0.710 cycle_A:
0.962 idt_A: 0.732 D_B: 0.037 G_B: 0.868 cycle_B: 1.681 idt_B: 0.429
(epoch: 1, iters: 3500, time: 0.253, data: 0.002) D_A: 0.317 G_A: 1.082 cycle_A:
1.103 idt_A: 0.757 D_B: 0.257 G_B: 0.120 cycle_B: 1.888 idt_B: 0.545
```

```
(epoch: 1, iters: 3600, time: 0.508, data: 0.002) D_A: 0.310 G_A: 0.189 cycle_A:
1.357 idt_A: 0.580 D_B: 0.250 G_B: 1.713 cycle_B: 1.336 idt_B: 0.652
(epoch: 1, iters: 3700, time: 0.254, data: 0.002) D_A: 0.287 G_A: 0.385 cycle_A:
2.078 idt_A: 0.643 D_B: 0.193 G_B: 0.346 cycle_B: 0.979 idt_B: 0.933
(epoch: 1, iters: 3800, time: 0.255, data: 0.002) D_A: 0.143 G_A: 0.985 cycle_A:
0.957 idt_A: 0.741 D_B: 0.104 G_B: 0.405 cycle_B: 2.104 idt_B: 0.361
(epoch: 1, iters: 3900, time: 0.254, data: 0.002) D_A: 0.045 G_A: 0.694 cycle_A:
1.062 idt_A: 1.058 D_B: 0.047 G_B: 1.340 cycle_B: 1.538 idt_B: 0.559
(epoch: 1, iters: 4000, time: 0.725, data: 0.002) D_A: 0.186 G_A: 1.038 cycle_A:
0.998 idt_A: 0.567 D_B: 0.079 G_B: 0.336 cycle_B: 1.219 idt_B: 0.376
(epoch: 1, iters: 4100, time: 0.256, data: 0.002) D_A: 0.353 G_A: 0.180 cycle_A:
4.198 idt_A: 0.934 D_B: 0.058 G_B: 0.291 cycle_B: 2.084 idt_B: 2.055
(epoch: 1, iters: 4200, time: 0.258, data: 0.002) D_A: 0.317 G_A: 1.109 cycle_A:
0.773 idt_A: 0.711 D_B: 0.096 G_B: 0.068 cycle_B: 1.857 idt_B: 0.417
(epoch: 1, iters: 4300, time: 0.254, data: 0.002) D_A: 0.127 G_A: 0.424 cycle_A:
1.020 idt_A: 0.453 D_B: 0.034 G_B: 1.291 cycle_B: 1.229 idt_B: 0.455
(epoch: 1, iters: 4400, time: 0.525, data: 0.002) D_A: 0.039 G_A: 0.764 cycle_A:
1.196 idt_A: 1.112 D_B: 0.082 G_B: 0.527 cycle_B: 2.583 idt_B: 0.567
(epoch: 1, iters: 4500, time: 0.253, data: 0.002) D_A: 0.208 G_A: 0.307 cycle_A:
0.875 idt_A: 0.833 D_B: 0.053 G_B: 0.727 cycle_B: 1.997 idt_B: 0.491
(epoch: 1, iters: 4600, time: 0.252, data: 0.002) D_A: 0.023 G_A: 0.543 cycle_A:
0.864 idt_A: 0.725 D_B: 0.165 G_B: 0.543 cycle_B: 2.085 idt_B: 0.512
(epoch: 1, iters: 4700, time: 0.254, data: 0.002) D_A: 0.182 G_A: 1.236 cycle_A:
1.031 idt_A: 0.832 D_B: 0.030 G_B: 0.292 cycle_B: 1.689 idt_B: 0.516
(epoch: 1, iters: 4800, time: 0.531, data: 0.002) D_A: 0.199 G_A: 0.173 cycle_A:
0.842 idt_A: 0.527 D_B: 0.121 G_B: 0.808 cycle_B: 1.306 idt_B: 0.533
(epoch: 1, iters: 4900, time: 0.252, data: 0.000) D_A: 0.512 G_A: 0.654 cycle_A:
0.578 idt_A: 1.170 D_B: 0.373 G_B: 0.072 cycle_B: 1.439 idt_B: 0.311
(epoch: 1, iters: 5000, time: 0.253, data: 0.002) D_A: 0.173 G_A: 0.970 cycle_A:
1.136 idt_A: 0.484 D_B: 0.162 G_B: 0.299 cycle_B: 1.031 idt_B: 0.380
saving the latest model (epoch 1, total_iters 5000)
(epoch: 1, iters: 5100, time: 0.254, data: 0.002) D_A: 0.037 G_A: 1.293 cycle_A:
0.894 idt_A: 0.625 D_B: 0.066 G_B: 1.153 cycle_B: 1.403 idt_B: 0.331
(epoch: 1, iters: 5200, time: 0.506, data: 0.003) D_A: 0.158 G_A: 0.249 cycle_A:
0.849 idt_A: 1.939 D_B: 0.125 G_B: 0.486 cycle_B: 4.208 idt_B: 0.333
(epoch: 1, iters: 5300, time: 0.257, data: 0.002) D_A: 0.173 G_A: 0.247 cycle_A:
1.888 idt_A: 1.075 D_B: 0.224 G_B: 1.619 cycle_B: 1.874 idt_B: 0.991
(epoch: 1, iters: 5400, time: 0.254, data: 0.002) D_A: 0.411 G_A: 0.762 cycle_A:
0.617 idt_A: 0.532 D_B: 0.275 G_B: 0.270 cycle_B: 1.688 idt_B: 0.322
(epoch: 1, iters: 5500, time: 0.257, data: 0.002) D_A: 0.038 G_A: 0.811 cycle_A:
0.706 idt_A: 0.358 D_B: 0.190 G_B: 0.529 cycle_B: 0.831 idt_B: 0.301
(epoch: 1, iters: 5600, time: 0.536, data: 0.002) D_A: 0.095 G_A: 0.460 cycle_A:
0.823 idt_A: 0.795 D_B: 0.050 G_B: 0.609 cycle_B: 1.337 idt_B: 0.309
(epoch: 1, iters: 5700, time: 0.256, data: 0.002) D_A: 0.324 G_A: 1.053 cycle_A:
1.158 idt_A: 0.648 D_B: 0.135 G_B: 0.391 cycle_B: 1.018 idt_B: 0.506
(epoch: 1, iters: 5800, time: 0.256, data: 0.002) D_A: 0.064 G_A: 1.015 cycle_A:
1.081 idt_A: 0.656 D_B: 0.107 G_B: 0.894 cycle_B: 2.198 idt_B: 0.486
(epoch: 1, iters: 5900, time: 0.254, data: 0.002) D_A: 0.038 G_A: 1.218 cycle_A:
0.660 idt_A: 0.371 D_B: 0.069 G_B: 0.187 cycle_B: 1.116 idt_B: 0.300
(epoch: 1, iters: 6000, time: 0.733, data: 0.002) D_A: 0.230 G_A: 0.280 cycle_A:
1.512 idt_A: 0.878 D_B: 0.186 G_B: 0.246 cycle_B: 1.566 idt_B: 0.762
(epoch: 1, iters: 6100, time: 0.255, data: 0.002) D_A: 0.426 G_A: 1.109 cycle_A:
0.994 idt_A: 0.871 D_B: 0.188 G_B: 0.325 cycle_B: 2.238 idt_B: 0.350
(epoch: 1, iters: 6200, time: 0.259, data: 0.002) D_A: 0.116 G_A: 1.029 cycle_A:
1.205 idt_A: 0.740 D_B: 0.096 G_B: 0.421 cycle_B: 1.278 idt_B: 0.583
(epoch: 1, iters: 6300, time: 0.253, data: 0.002) D_A: 0.118 G_A: 0.619 cycle_A:
1.047 idt_A: 0.493 D_B: 0.223 G_B: 0.399 cycle_B: 1.110 idt_B: 0.275
(epoch: 1, iters: 6400, time: 0.538, data: 0.002) D_A: 0.269 G_A: 1.099 cycle_A:
1.132 idt_A: 0.482 D_B: 0.035 G_B: 0.120 cycle_B: 1.233 idt_B: 0.380
(epoch: 1, iters: 6500, time: 0.252, data: 0.002) D_A: 0.341 G_A: 0.294 cycle_A:
1.137 idt_A: 1.093 D_B: 0.155 G_B: 0.313 cycle_B: 2.413 idt_B: 0.431
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(epoch: 1, iters: 6600, time: 0.258, data: 0.002) D_A: 0.106 G_A: 0.730 cycle_A:
1.092 idt_A: 0.704 D_B: 0.259 G_B: 0.634 cycle_B: 1.417 idt_B: 0.396
(epoch: 1, iters: 6700, time: 0.256, data: 0.002) D_A: 0.166 G_A: 0.831 cycle_A:
0.762 idt_A: 0.444 D_B: 0.029 G_B: 0.470 cycle_B: 1.009 idt_B: 0.293
(epoch: 1, iters: 6800, time: 0.514, data: 0.002) D_A: 0.232 G_A: 0.281 cycle_A:
0.960 idt_A: 0.562 D_B: 0.105 G_B: 0.467 cycle_B: 1.085 idt_B: 0.475
(epoch: 1, iters: 6900, time: 0.257, data: 0.002) D_A: 0.286 G_A: 0.176 cycle_A:
0.700 idt_A: 0.901 D_B: 0.046 G_B: 0.363 cycle_B: 2.004 idt_B: 0.364
(epoch: 1, iters: 7000, time: 0.256, data: 0.002) D_A: 0.218 G_A: 1.086 cycle_A:
1.640 idt_A: 0.609 D_B: 0.100 G_B: 0.506 cycle_B: 2.282 idt_B: 0.732
(epoch: 1, iters: 7100, time: 0.257, data: 0.002) D_A: 0.303 G_A: 1.166 cycle_A:
0.502 idt_A: 0.921 D_B: 0.020 G_B: 0.370 cycle_B: 1.678 idt_B: 0.218
(epoch: 1, iters: 7200, time: 0.503, data: 0.002) D_A: 0.157 G_A: 0.338 cycle_A:
0.823 idt_A: 0.775 D_B: 0.071 G_B: 0.465 cycle_B: 1.546 idt_B: 0.261
(epoch: 1, iters: 7300, time: 0.259, data: 0.002) D_A: 0.076 G_A: 0.622 cycle_A:
1.062 idt_A: 0.480 D_B: 0.109 G_B: 0.027 cycle_B: 1.242 idt_B: 0.470
(epoch: 1, iters: 7400, time: 0.259, data: 0.002) D_A: 0.337 G_A: 0.133 cycle_A:
1.119 idt_A: 0.619 D_B: 0.255 G_B: 0.233 cycle_B: 1.172 idt_B: 0.448
(epoch: 1, iters: 7500, time: 0.258, data: 0.002) D_A: 0.154 G_A: 0.323 cycle_A:
0.763 idt_A: 0.927 D_B: 0.085 G_B: 0.720 cycle_B: 1.648 idt_B: 0.263
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(epoch: 1, iters: 44900, time: 0.255, data: 0.002) D_A: 0.118 G_A: 0.372 cycle_A:
0.813 idt_A: 0.589 D_B: 0.043 G_B: 0.599 cycle_B: 1.319 idt_B: 0.334
(epoch: 1, iters: 45000, time: 0.257, data: 0.002) D_A: 0.047 G_A: 0.456 cycle_A:
0.780 idt_A: 0.673 D_B: 0.022 G_B: 0.749 cycle_B: 1.198 idt_B: 0.235
saving the latest model (epoch 1, total_iters 45000)
(epoch: 1, iters: 45100, time: 0.251, data: 0.002) D_A: 0.066 G_A: 0.511 cycle_A:
0.425 idt_A: 0.650 D_B: 0.026 G_B: 1.081 cycle_B: 1.713 idt_B: 0.161
(epoch: 1, iters: 45200, time: 0.582, data: 0.002) D_A: 0.082 G_A: 0.588 cycle_A:
0.468 idt_A: 0.894 D_B: 0.119 G_B: 0.400 cycle_B: 1.770 idt_B: 0.169
(epoch: 1, iters: 45300, time: 0.255, data: 0.002) D_A: 0.020 G_A: 0.747 cycle_A:
1.710 idt_A: 0.242 D_B: 0.056 G_B: 0.558 cycle_B: 0.606 idt_B: 0.782
(epoch: 1, iters: 45400, time: 0.254, data: 0.002) D_A: 0.073 G_A: 0.939 cycle_A:
0.494 idt_A: 0.684 D_B: 0.024 G_B: 0.535 cycle_B: 1.617 idt_B: 0.168
(epoch: 1, iters: 45500, time: 0.256, data: 0.002) D_A: 0.116 G_A: 0.741 cycle_A:
0.893 idt_A: 0.457 D_B: 0.017 G_B: 0.732 cycle_B: 0.811 idt_B: 0.256
(epoch: 1, iters: 45600, time: 0.578, data: 0.002) D_A: 0.058 G_A: 0.990 cycle_A:
1.347 idt_A: 0.533 D_B: 0.072 G_B: 0.993 cycle_B: 1.050 idt_B: 0.588
(epoch: 1, iters: 45700, time: 0.256, data: 0.002) D_A: 0.218 G_A: 0.239 cycle_A:
0.743 idt_A: 0.923 D_B: 0.029 G_B: 0.839 cycle_B: 2.381 idt_B: 0.255
(epoch: 1, iters: 45800, time: 0.257, data: 0.002) D_A: 0.037 G_A: 0.538 cycle_A:
0.712 idt_A: 0.724 D_B: 0.103 G_B: 0.402 cycle_B: 1.136 idt_B: 0.237
(epoch: 1, iters: 45900, time: 0.253, data: 0.003) D_A: 0.037 G_A: 0.707 cycle_A:
0.491 idt_A: 0.534 D_B: 0.038 G_B: 0.483 cycle_B: 1.301 idt_B: 0.185
(epoch: 1, iters: 46000, time: 0.820, data: 0.002) D_A: 0.045 G_A: 0.980 cycle_A:
1.581 idt_A: 0.280 D_B: 0.079 G_B: 0.114 cycle_B: 1.228 idt_B: 0.590
(epoch: 1, iters: 46100, time: 0.254, data: 0.002) D_A: 0.055 G_A: 0.364 cycle_A:
0.656 idt_A: 0.610 D_B: 0.025 G_B: 0.768 cycle_B: 1.443 idt_B: 0.306
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(epoch: 1, iters: 46200, time: 0.254, data: 0.002) D_A: 0.036 G_A: 0.731 cycle_A:
1.054 idt_A: 0.678 D_B: 0.425 G_B: 0.042 cycle_B: 1.302 idt_B: 0.604
(epoch: 1, iters: 46300, time: 0.256, data: 0.003) D_A: 0.325 G_A: 1.119 cycle_A:
0.623 idt_A: 0.590 D_B: 0.133 G_B: 0.213 cycle_B: 1.169 idt_B: 0.167
(epoch: 1, iters: 46400, time: 0.606, data: 0.002) D_A: 0.261 G_A: 0.142 cycle_A:
1.214 idt_A: 0.423 D_B: 0.172 G_B: 0.854 cycle_B: 1.164 idt_B: 0.559
(epoch: 1, iters: 46500, time: 0.254, data: 0.002) D_A: 0.073 G_A: 0.802 cycle_A:
0.991 idt_A: 0.446 D_B: 0.027 G_B: 0.741 cycle_B: 1.225 idt_B: 0.159
(epoch: 1, iters: 46600, time: 0.258, data: 0.002) D_A: 0.029 G_A: 0.489 cycle_A:
0.634 idt_A: 0.277 D_B: 0.148 G_B: 0.527 cycle_B: 0.704 idt_B: 0.196
(epoch: 1, iters: 46700, time: 0.255, data: 0.002) D_A: 0.127 G_A: 0.378 cycle_A:
0.963 idt_A: 0.565 D_B: 0.100 G_B: 0.682 cycle_B: 1.727 idt_B: 0.459
(epoch: 1, iters: 46800, time: 0.575, data: 0.002) D_A: 0.044 G_A: 0.970 cycle_A:
0.593 idt_A: 0.638 D_B: 0.196 G_B: 0.259 cycle_B: 1.530 idt_B: 0.204
(epoch: 1, iters: 46900, time: 0.254, data: 0.002) D_A: 0.090 G_A: 0.505 cycle_A:
1.760 idt_A: 0.387 D_B: 0.239 G_B: 0.252 cycle_B: 1.114 idt_B: 1.068
(epoch: 1, iters: 47000, time: 0.253, data: 0.002) D_A: 0.033 G_A: 0.980 cycle_A:
0.668 idt_A: 0.555 D_B: 0.244 G_B: 0.247 cycle_B: 1.467 idt_B: 0.170
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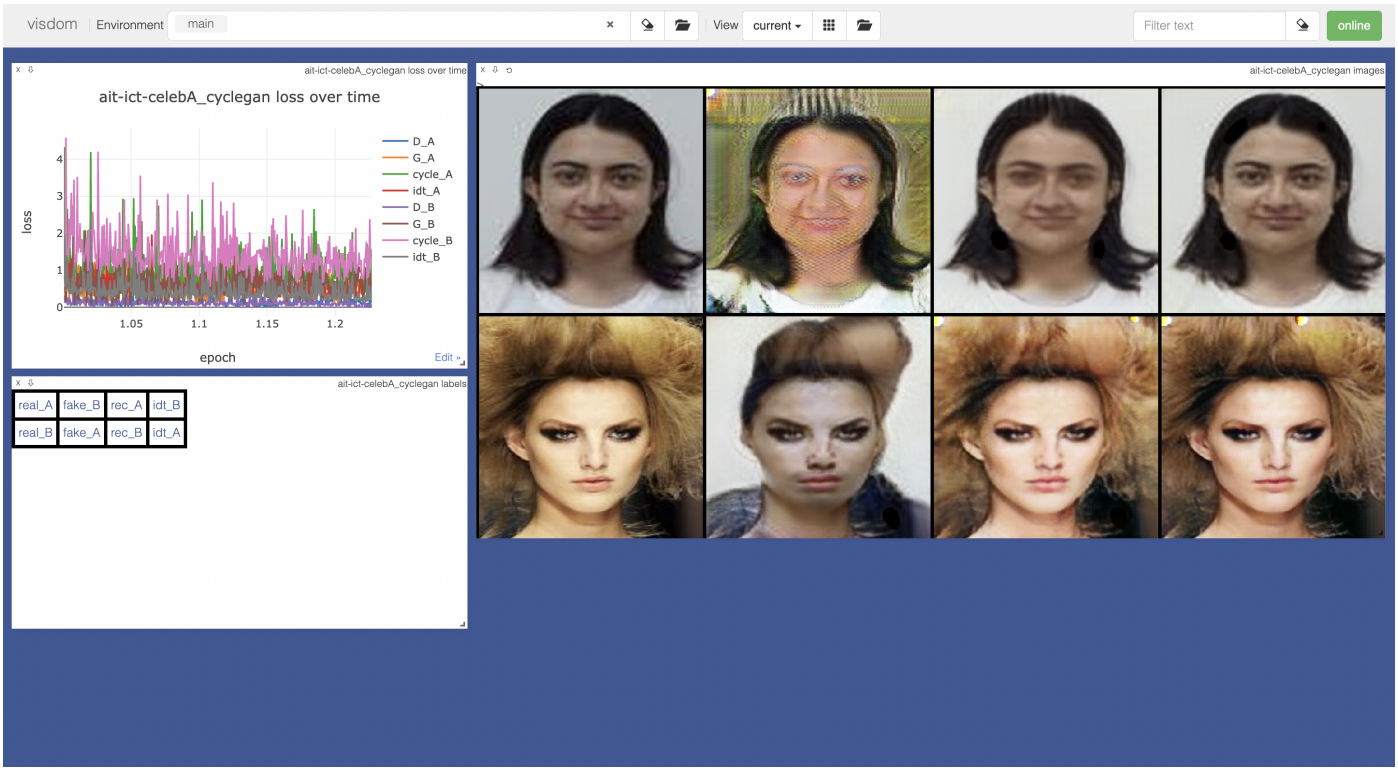

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