

Supplementary material for “Learning to Discover Cross-Domain Relations with Generative Adversarial Networks”

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Abstract

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1 Toy domain experiment

Included standardGAN.gif (standard GAN), GAN+R.gif (GAN with reconstruction loss), and DiscoGAN.gif (DiscoGAN) shows entire procedures of toy experiment in Section 4.1. respectively.

2 Real domain experiment

2.1 Edge to shoes along with iteration

We trained the DiscoGAN Model using Edge2Shoes Dataset. This Figure 1 shows the Edges to Shoes results along with iteration.



Figure 1: Edge to shoes experiment for the number of training iterations

2.2 Angle alignment in car to car experiments

We tests the various condition for angle between domain A and B, including 150° vs 75° , 75° vs 150° , 30° vs 15° , 15° vs 30° , 360° vs 360° .



Figure 2: Car to car experiment. The range of input (above row) degree is 150° . The range of output degree is 75°



Figure 3: Car to car experiment. The range of input (above row) degree is 75° .
The range of output degree is 150°

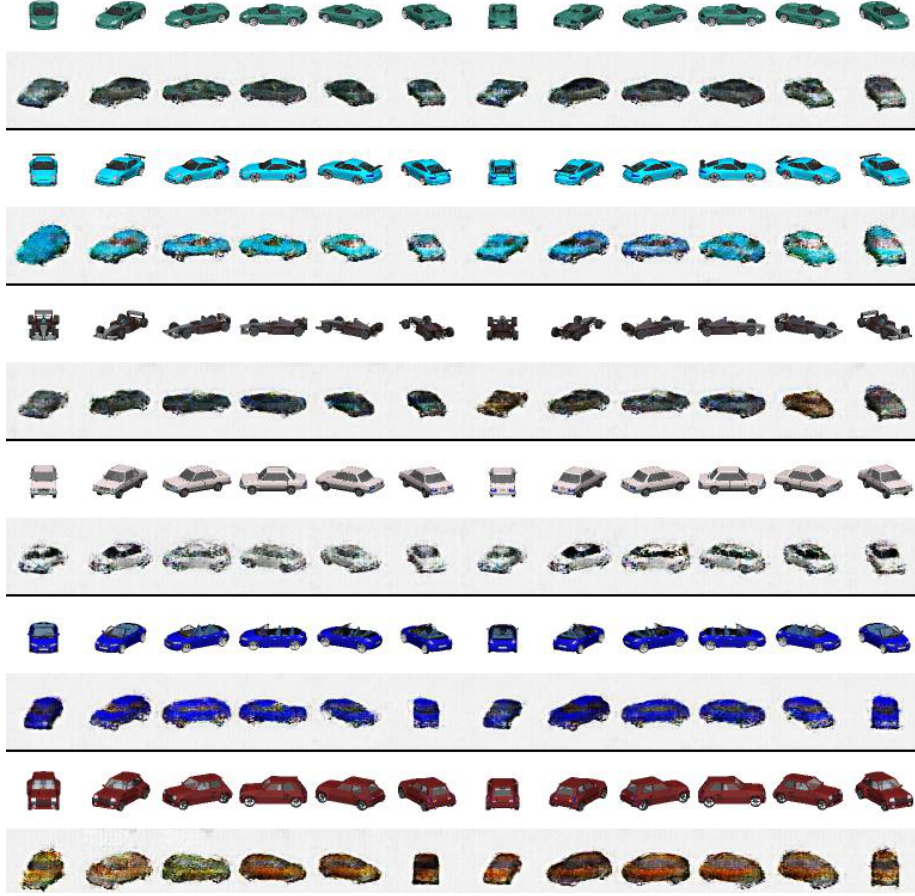


Figure 4: Car to car experiment. The range of input and output (above row) degree is 360° . The Moving angle of input is 30° . The Moving angle of output is 15° .



Figure 5: Car to car experiment. The range of input and output (above row) degree is 360° . The Moving angle of input is 15° . The Moving angle of output is 30° .



Figure 6: Car to car experiment. The range of input and output (above row) degree is 360° . It is one to one matching.

2.3 Angle alignment in face to face experiments

It shows the angle alignment in face to face experiments using GAN, GAN+R and DiscoGAN.

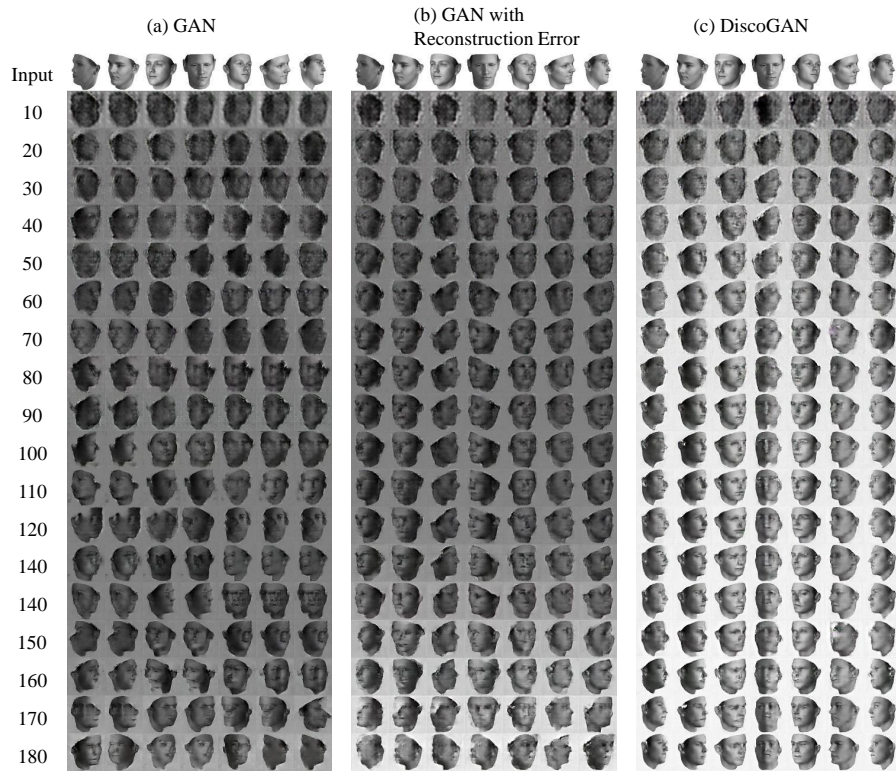


Figure 7: Angle alignment Experiments in face to face using GAN, GAN+R and DiscoGAN.

2.4 Gender translation

We used the cropped face image in facescrub dataset. There are divided the man and woman. So, we try to transfer between man and woman.

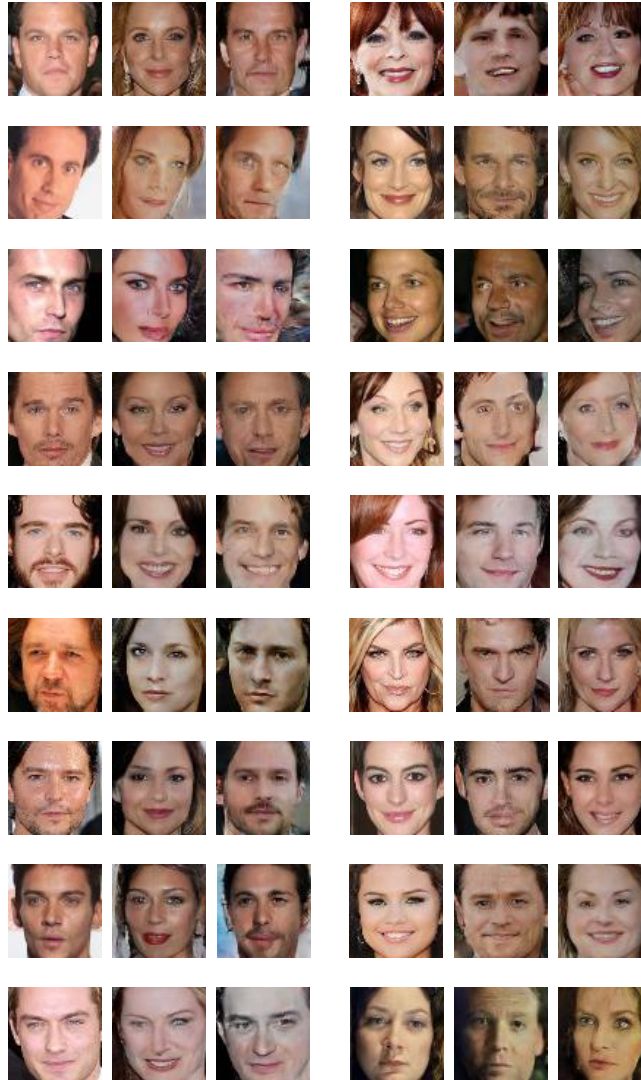


Figure 8: Gender Translation Experiment. DiscoGAN can transfer simultaneously between man and woman. It shows that maintains the context of identity during transformation.

2.5 Edge to bag and corresponding reconstruction

We try to colorize the edge image or sketch the edge in handbag image dataset.

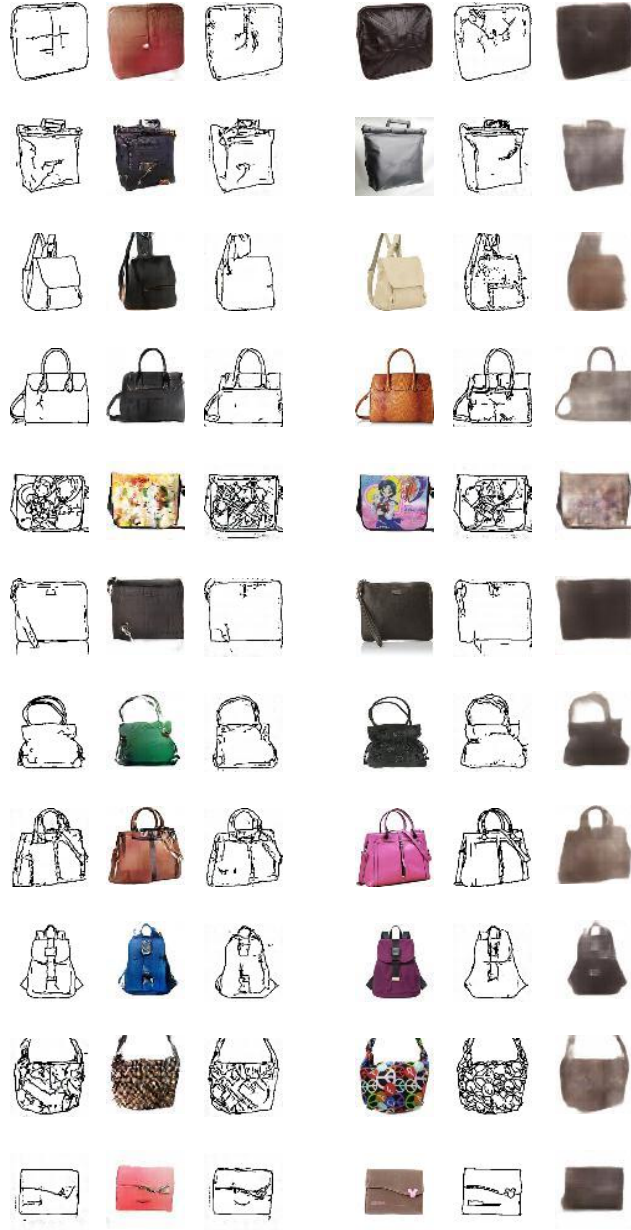


Figure 9: Edge to Handbag Experiment.