Introduction:StyleGAN2 is an advanced generative adversarial network (GAN) model focusing on high-quality image generation. It is capable of generating realistic and detailed images by improving the generator's normalization method, path length regularization and structural design, and is widely used in the generation of images such as faces and landscapes, as well as in image editing.StyleGAN2 can achieve the best current results in the task of generating images unconditionally, and not only generates high-resolution images, but also easily implements features such as style blending and feature manipulation, enabling users to control the details and styles of generated images. enables users to control the details and styles of the generated images.

Deployment process:

1. install vs2017,the purpose is mainly to install the C++ compiler, because one of the steps in this project needs to be compiled, note that must install the 2017 version.

2. install Cuda and Cudnn, note that our code needs to be cuda10.0,download link https://developer.nvidia.com/cuda-10.0-download-archive, and then note that the link to download the relevant cuddn is https://developer. nvidia.com/rdp/cudnn-archive find CuDNNv7.5.0 for CUDA10.0

3. We need to prepare the virtual environment, here recommended to download Anaconda3, then after installing conda, create a virtual environment

Open the terminal prompt of the downloaded conda and execute the following command:

conda create -n stylegan2 python=3.6

conda activate stylegan2

4. Install a pycharm, and need to manually import the source code into it, and then import the stylegan2 environment we created, because our code framework is based on TensorFlow 1.14, so we have to prepare the corresponding CUDA and cuDNN in advance:

① First install the stylegan2 environment via the command prompt

conda install cudatoolkit=10.0 cudnn=7.5 -c anaconda

② Next, make sure that the NVIDIA driver in the computer has been installed correctly, and check to see if the CUDA tool path has been added to the system PATH, the second step has been completed.

③ Finally, install TensorFlow 1.14:

pip install tensorflow-gpu=1.14

Then install the pip dependency

pip install distributed==1.12.8

pip install numpy==1.14.3

5. Modify the source file custom\_ops.py under dnnlib\tflib to change the path to the real path of vs2017 that we installed in the first step.

6. In the pycharm terminal, type

python run\_generator.py generate-images --network=gdrive:networks/stylegan2-ffhq-config-f.pkl --seeds=6600-6625 --truncation-psi=0.5

This generates 26 high-definition images