

2D StyleGAN Dataset Processing

Jterm 2022

Setup CoLab

In this section, we will be introducing how to set up styleGAN in Google CoLab. We will also introduce some pre-processing

```
In [ ]: import os
        assert os.environ['COLAB_TPU_ADDR'], 'Make sure to select TPU from Edit > Notebook settings > Hardware accelerator'
        import cv2
```

```
In [ ]: from google.colab import drive
        drive.mount('/content/drive')
```

Mount Your Google Drive

Now that we have setup the infrastructure required, we can begin to mount our dataset. We can do this by mounting the

```
In [ ]: from google.colab import drive, files
        drive.mount('/content/gdrive', force_remount=True)
        cwd = os.getcwd()

        filedir = 'gdrive/MyDrive/2021_2D_Dataset_Plans/'

        output_dir= 'gdrive/MyDrive/2021_2D_Dataset_Plans/Output/'
```

```
In [ ]: def augment_dataset(filedir, output_dir):

        filelist = os.listdir(filedir)
        for file in filelist:
            name=file[:-4]

            img = cv2.imread(filedir+file)
            img_mir = cv2.flip(img, 1)

            img_c_90 = cv2.rotate(img, cv2.ROTATE_90_CLOCKWISE)
            img_c_180 = cv2.rotate(img, cv2.ROTATE_180)
            img_c_270 = cv2.rotate(img, cv2.ROTATE_90_COUNTERCLOCKWISE)

            img_m_90 = cv2.rotate(img_mir, cv2.ROTATE_90_CLOCKWISE)
            img_m_180 = cv2.rotate(img_mir, cv2.ROTATE_180)
            img_m_270 = cv2.rotate(img_mir, cv2.ROTATE_90_COUNTERCLOCKWISE)

            #print(img_c_90.shape, img_c_180.shape, img_c_270.shape)
            cv2.imwrite(output_dir+name+'_90.jpg', img_c_90)
            cv2.imwrite(output_dir+name+'_180.jpg', img_c_180)
            cv2.imwrite(output_dir+name+'_270.jpg', img_c_270)

            if not os.path.exists(output_dir):
                os.makedirs(output_dir)

            cv2.imwrite(output_dir+name+'_m_90.jpg', img_m_90)
            cv2.imwrite(output_dir+name+'_m_180.jpg', img_m_180)
            cv2.imwrite(output_dir+name+'_m_270.jpg', img_m_270)
```

```
In [ ]: augment_dataset(filedir,output_dir)
```

Download the Dataset for Further Training

```
In [ ]: !zip -r /content/file.zip /content/gdrive/MyDrive/2021_2D_Dataset_Plans/Output
        files.download("/content/file.zip")
```

```
In [ ]:
```