

# StyleGAN workshop

## Dangerzones

### Setup Remote Jupyterhub Notebook

#### 1. Signing into Jupyterhub via keycloak

key in your keycloak credentials [here](#)

Choose an XS slice

make sure to choose cuda 11.7 from the dropdown



Start My Server

#### 2. Installing Stylegan3

```
conda init bash
```

```
source ~/.bashrc
```

```
git clone https://github.com/NVLabs/stylegan3.git
```

```
cd stylegan3
```

```
conda env create -f environment.yml
```

```
conda activate stylegan3
```

```
conda install cudatoolkit
```

## downloading models

### make 'pretrained' directory

```
mkdir pretrained
```

### ffhq flicker faces

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/j06LuPxYHRRtnQE/download -O  
pretrained/ffhq_faces.pkl
```

### Wikiart

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/tbjJS7XBezbAC3B/download -O  
pretrained/wikiart.pkl
```

### Metfaces

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/eFZAmR6dDLelSo7/download -O  
pretrained/metfaces.pkl
```

# Setup Local Stylegan

## 1. Refer to the Github Page

For major installation process refer to the [stylegan3 GitHub Page](#).

This is an in-depth YouTube tutorial on [how to install stylegan3 locally](#)

## 2. Installing Stylegan3

```
conda init bash
```

```
source ~/.bashrc
```

```
git clone https://github.com/NVlabs/stylegan3.git
```

```
cd stylegan3
```

```
conda env create -f environment.yml
```

```
conda activate stylegan3
```

```
conda install cudatoolkit
```

## downloading models

### make 'pretrained' directory

```
mkdir pretrained
```

### ffhq flicker faces

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/j06LuPxYHRRtnQE/download -O  
pretrained/ffhq_faces.pkl
```

### Wikiart

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/tbjJS7XBezBAC3B/download -O  
pretrained/wikiart.pkl
```

### Metfaces

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/eFZAmR6dDLelSo7/download -O pretrained/metfaces.pkl
```

# Inference

For generating single images and videos, you may follow these steps.

## activating conda environment

this needs to be done before every session if you want to use stylegan

```
conda init bash
```

```
source ~/.bashrc
```

```
conda activate stylegan3
```

## inference images

```
python gen_images.py --outdir=out --trunc=1 --seeds=2 --  
network=https://api.ngc.nvidia.com/v2/models/nvidia/research/stylegan3/versions/1/files/stylegan3-r-  
afhqv2-512x512.pkl
```

## inference video

```
python gen_video.py --output=out/wikiart.mp4 --trunc=1 --seeds=0-31 --network=pretrained/wikiart.pkl
```

# Training

For training your own datasets, you can follow these steps.

## Download Training data

```
mkdir trainingdata
```

### Group 01

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/7SzJ55ZroKPf5zY/download -O  
trainingdata/group01.zip
```

### Group 02

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/7SzJ55ZroKPf5zY/download -O  
trainingdata/group02.zip
```

### Group 03

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/YGR7BaeoIBSePNI/download -O  
trainingdata/group03.zip
```

### Group 04

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/SsrPKyPcyswd8z2/download -O  
trainingdata/group04.zip
```

### Group 05

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/b1I0rgEaPcyaP44/download -O  
trainingdata/group05
```

### Group 06

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/Orv9FDqqKwtBMIB/download -O  
trainingdata/group06
```

### Prepare training data

```
python dataset_tool.py --source=trainingdata/group01.zip --destination=trainingdata/group01 --  
resolution=512x512
```

### start training

```
python train.py --help
```

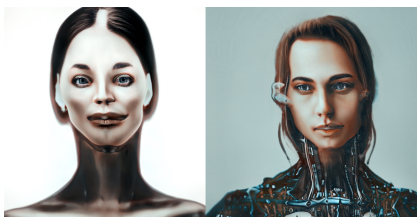
# Downloading the DangerzonesGANs

### downloading dangerzones models

#### go into directory pretrained:

```
cd pretrained
```

Download our trained models from the KISD Modelzoo:



#### Group 01 - androids gynoids

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/B7rOZIRzPN5rev1/download -O  
pretrained/group_01_220.pkl
```

#### Group 02 TBF - dataset error



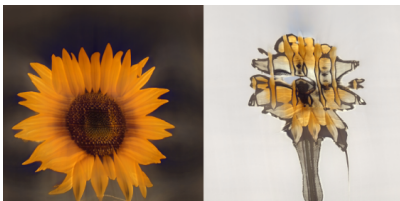
### Group 03 - grayscale faces

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/SRcjw6DPv9Alacn/download -O pretrained/group_03_500.pkl
```



### Group 04 -future cities

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/CW8uQ2dsQbVOiXa/download -O pretrained/group_04_20.pkl
```



### Group 05 - lamppost and sunflowers

```
wget --no-check-certificate --content-disposition https://th-koeln.sciebo.de/s/fb0skqUV9ypIOEl/download -O pretrained/group_05.pkl
```

Group 05 - encoded data

---

Revision #1

Created 29 January 2024 11:25:50 by dzennifer

Updated 29 January 2024 11:25:50 by dzennifer