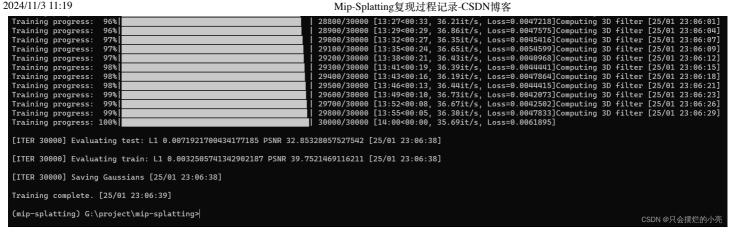
# Mip-Splatting复现过程记录

## Mip-Splatting复现小记 Paper: 2311.16493.pdf (arxiv.org) Code: GitHub - autonomousvision/mip-splatting: Mip-Splatting: Alias-free 3D Gaussian Splatting 步骤 Step1: 拉取code git clone git@github.com:autonomousvision/mip-splatting.git Step2:数据集 DataSet1: NeRF官方数据集nerf\_synthetic文件夹 - Google 云端硬盘(1.56GB) 预处理数据: python convert\_blender\_data.py --blender\_dir nerf\_synthetic/ --out\_dir multi-scale 处理后数据输出到Multi-scale文件夹 DataSet2: Mip-NeRF360mip-NeRF 360 (jonbarron.info) Step3: 环境配置 ①创建conda环境 conda create -y -n mip-splatting python=3.8 conda activate mip-splatting ③安装适合自己电脑的pytorch和cuda pip install torch==1.12.1+cull3 torchvision==0.13.1+cull3 conda install cudatoolkit=11.3 -c conda-forge ④安装剩余环境 pip install -r requirements.txt pip install submodules/diff-gaussian-rasterization pip install submodules/simple-knn/ Step4: 训练和预测 # single-scale training and single-scale testing on NeRF-synthetic dataset python scripts/run\_nerf\_synthetic\_stmt.py # multi-scale training and multi-scale testing on NeRF-synthetic dataset python scripts/run nerf synthetic mtmt.py # single-scale training and single-scale testing on the mip-nerf 360 dataset python scripts/run\_mipnerf360.py # single-scale training and multi-scale testing on the mip-nerf 360 dataset python scripts/run mipnerf360 stmt.py 我直接运行脚本控制台一直等待,无任何输出 检查GPU状态和cuda 都可用 直接用下面的命令直接手动训练 训练train.py set OMP\_NUM\_THREADS=4 set CUDA VISIBLE DEVICES=0,1 python train.py -s multi-scale/lego -m output/lego --eval --white background --port 6209 --kernel size 0.1 #输入是预处理的场景multi-scale/lego #输出是训练过的点云数据output/lego 渲染render.py

### 训练过程:

评估指标metrics.py

python metrics.py -m {output dir}/{scene}



#### 评估过程:

```
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ion\models\_utils.py:208: UserWarning: The parameter 'pretrained' is deprecated since 0.13 and will be removed in 0.15, please use 'weights'
                 conda\envs\mip-splatting\lib\site-packages\torchvision\models\_utils.py:223: UserWarning: Arguments other than a weight enum or 'None' for 'weights' are deprecated since 0.13 and will be remov
rrent behavior is equivalent to passing 'weights=VGG16_Weights.IMAGENETIK_V1'. You can also use 'weights=VGG16_Weights.DEFAULT' to get the most up-to-date weights.
                                                    odels/vgg16-397923af.pth" to C:\Users\Favor/.cache\torch\hub\checkpoints\vgg16-397923af.pth
splatting) G:\project\mip-splatting
                                                                                                                                                                                                                                                              CSDN @只会摆烂的
```

输出至output文件夹

## 3D 平滑滤波器融合到高斯参数

python create\_fused\_ply.py -m {model\_dir}/{scene} --output\_ply fused/{scene}\_fused.ply"

viewer : Mip-Splatting Viewer Examples (niujinshuchong.github.io) (google打开)

上传ply文件即可渲染

## 渲染结果

