

## Instruction:

1. Recommend to run this on a Virtual Machine (We used Google Cloud Platform – Compute Engine)

2. Update the file “./configs/train-sample.yaml”:

(1) Training Dataset JSON File Location: Line 27 “train:”

(2) Training Dataset JSON FileLocation: Line 28 “val:”

(3) Rendering Output File Folder Location: Line 25 “root\_dirs”

(4) You can also update other parameters including epoch and batch size in this file.

3. If needed, update the file “./datasource/data\_prep.py”, including but not limited to:

(1) Sample Seed: Line 10: Validation Dataset Sample Seed, Line 30 Training Dataset Sample Seed

(2) Dataset Download Directory: Line 19: Validation Dataset Download Directory, Line 37: Training Dataset Download Directory

(3) Sample Size: Line 14: Validation Dataset Sample Size, Line 33 Training Dataset Sample Size

4. If needed, run the file to download the data “./datasource/data\_prep.py”. Use

“./scripts/data/objaverse/blender.py” to render the downloaded object files. Then create the JSON files which includes the object ids.

5. VM – Environment Set Up, run the following codes:

```
sudo apt update
```

```
sudo apt install python3
```

```
sudo apt install python3-pip
```

```
sudo apt-get install -y python3-venv
```

```
python3 -m venv project_venv
```

```
source project_venv/bin/activate
```

```
sudo apt-get install -y python3-git
```

```
git clone https://github.com/Yekuhn/ProbNerf_Imp
```

6. VM – Packages Installation, run the following codes:

```
pip3 install transformers
```

```
pip3 --no-cache-dir install -r requirements.txt
```

```
pip3 --no-cache-dir install -U xformers --index-url https://download.pytorch.org/whl/cu121
```

```
pip3 --no-cache-dir install --pre -U xformers
```

```
python -m xformers.info
```

7. VM – Training, run the following codes:

### (1) Data Prep

```
cd "./datasource"  
  
python3 data_prep.py  
  
cd "../"
```

### (2) Training Start

```
ACC_CONFIG="./configs/accelerate-train.yaml"  
  
TRAIN_CONFIG="./configs/train-sample.yaml"  
  
accelerate launch --config_file $ACC_CONFIG -m probnerf.launch train.probnerf --config  
$TRAIN_CONFIG
```