

Create a conda environment with all the necessary libraries:

```
conda create -n midterm_srgan python=3.10 -y  
conda activate midterm_srgan
```

```
pip install torch torchvision torchaudio  
pip install numpy pandas matplotlib seaborn scikit-learn tqdm pillow
```

If using CUDA, install the GPU version of PyTorch from <https://pytorch.org/get-started>.

Dataset Structure:

```
data/  
  └── raw/  ( original train/test (cats & dogs))  
    └── sr/    (LR-HR pairs for SRGAN training)  
      └── srgan_generated/ ( auto-created later)
```

Workflow:

python train_srgan.py

Python generate_sr_images.py

Run the assignment1.ipynb for classifier A

python classifier_train_B.py

python compare_model.py for comparing performance of the models.

Python visualize_srgan_transforms.py for visualizing the results.

- results/srgan/ generator checkpoints and sample SR images
- results/classifier_A/ baseline model weights + report_A.txt
- results/classifier_B/ SRGAN model weights + report_B.txt

- Run all scripts from inside the scripts/ folder.
- Ensure dataset paths inside .py files match your local directories.