CS726 Programming Assignment – 2 Report

Saksham Rathi (22B1003)
Sharvanee Sonawane (22B0943)
Deeksha Dhiwakar (22B0988)

Department of Computer Science,
Indian Institute of Technology Bombay

Denoising Diffusion Probabilistic Models

Here are the results of unconditional DDPMs on various datasets (with respect to the number of time steps). We had fixed all other parameters (the best settings observed):

- lbeta=0.0001

- ubeta=0.02

- lr=0.0001 (so that training loss decreases across epochs)

- n_samples=10000

- n_dim=2 (for helix it is 3)

- batch_size=128 (to avoid CUDA memory errors and optimal results)
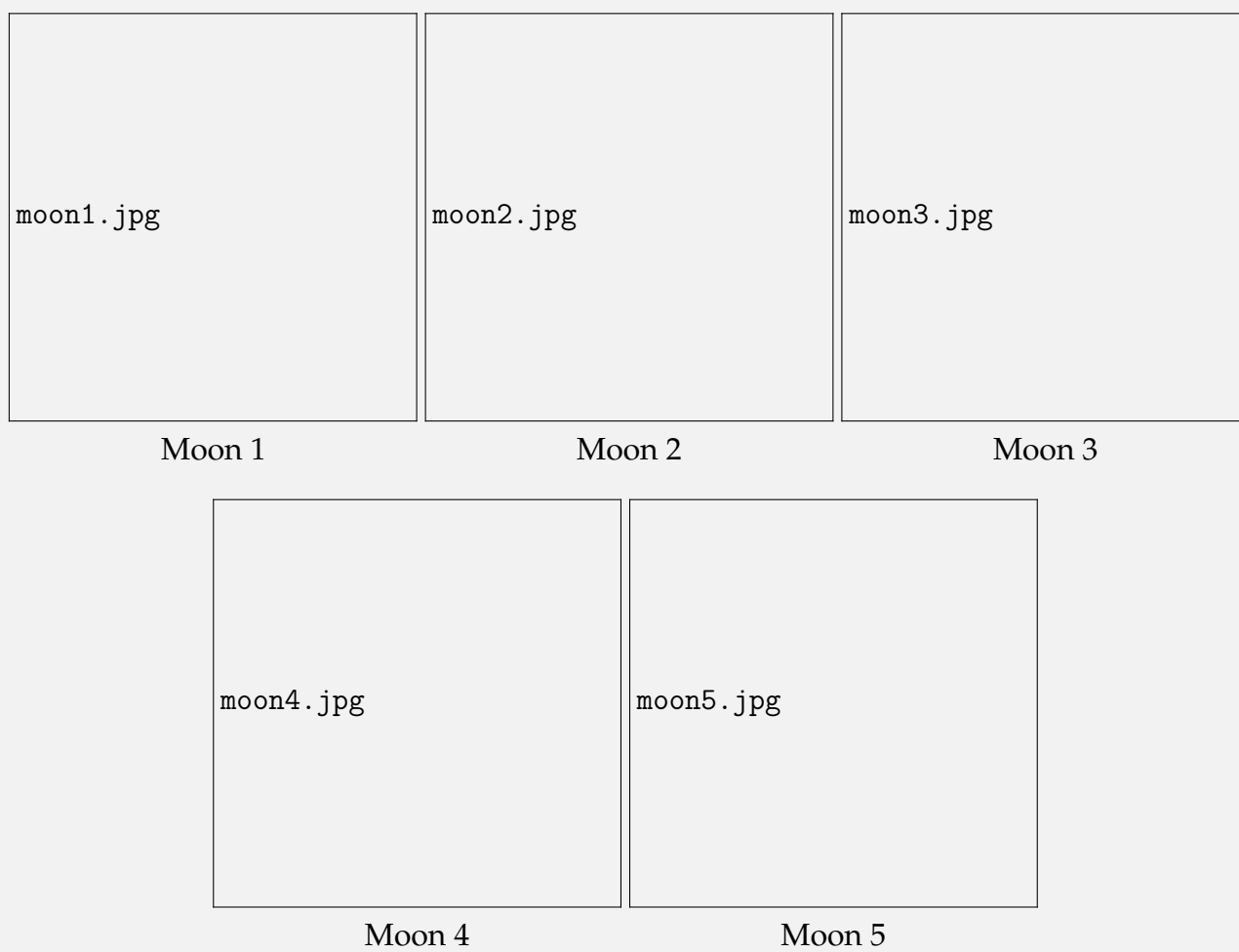
- epochs=40

Moons

Classifier-Free Guidance

Reward Guidance

Figure 1: Five images of moons arranged in a 3×2 grid.