

Homework-4

In my repository, there are files that contain implementations of DCGAN, WGAN, And ACGAN networks, with PyTorch being the primary library used. These networks consist of a generator that produces synthetic images and a discriminator that distinguishes between real and fake images.

DCGAN-

- Figure 1 shows the pictures produced by my DCGAN network.
- DCGAN was found to be the simplest of all networks, with loss levels varying from epoch to epoch.
- Figure 2 shows the loss values for the DCGAN network in Generator and Discriminator.
- When compared to DCGAN, WGAN, and ACGAN networks, the DCGAN network is the easiest to implement, while the ACGAN network is the most difficult.
- DCGAN, ACGAN, and WGAN are all major GAN variants that have led to the improvement of picture creation as well as reliability in deep neural networks.

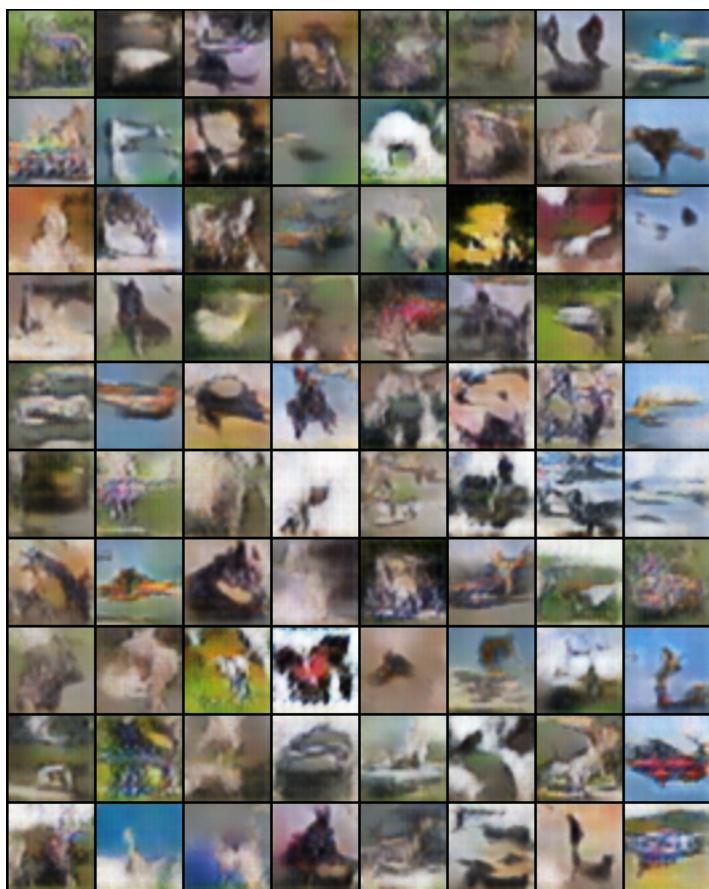
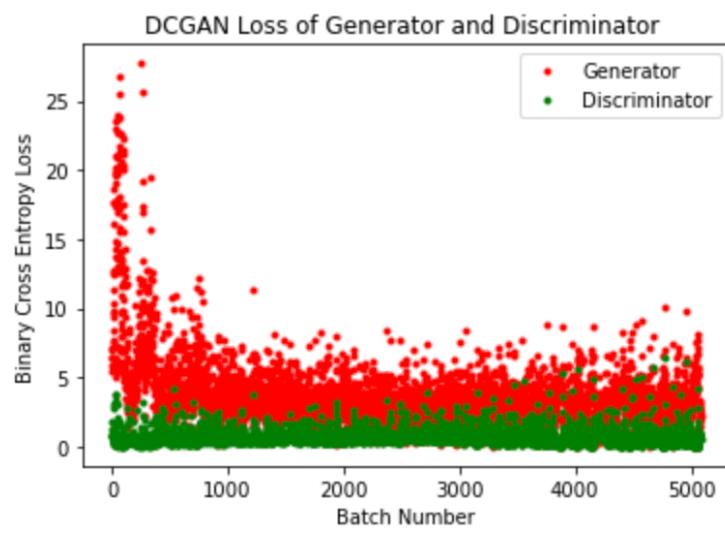


Figure 1: Sample images produced by DCGAN

Figure 2: Loss values of DCGAN during training.



WGAN-

- Figure 3 shows the pictures produced by my WGAN network.
- Figure 4 shows the loss values for the WGAN network in Generator and Discriminator.
- My WGAN network is more stable than the DCGAN network and the sample images are clear when compared to the DCGAN.

Figure 3: Sample images produced by WGAN



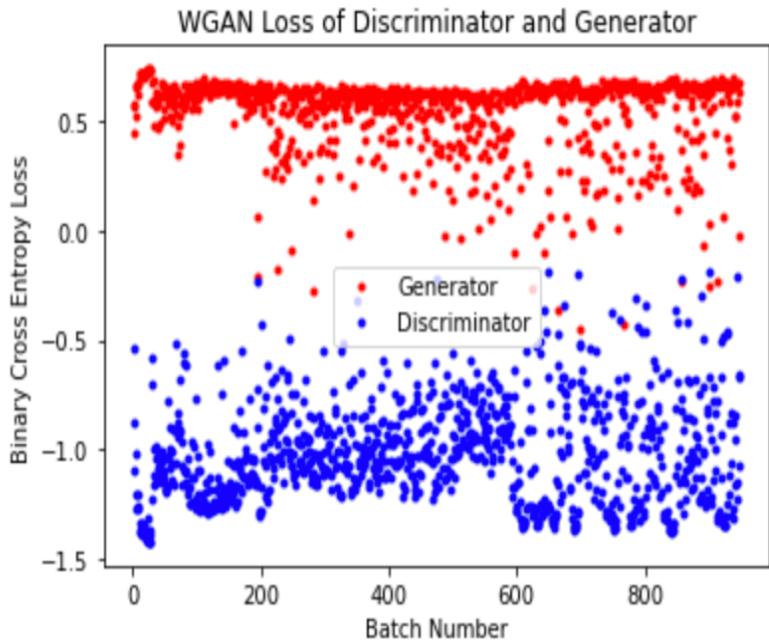


Figure 4: Loss values during WGAN training.

ACGAN-

- Figure 5 and Figure 6 show the pictures produced by my ACGAN network.
- Figure 7 shows the loss values for the ACGAN network in Generator and Discriminator.
- For ACGAN Figure 5 and Figure 6 are the best sample images for the ACGAN network.

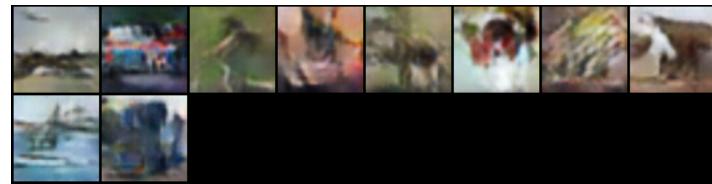


Figure 5: Sample images produced by ACGAN

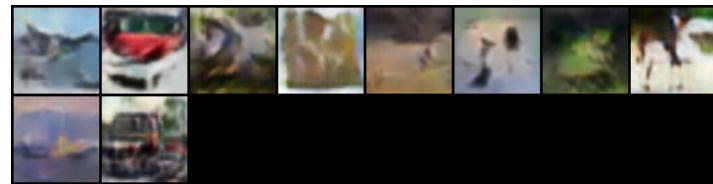


Figure 6: Sample images produced by ACGAN

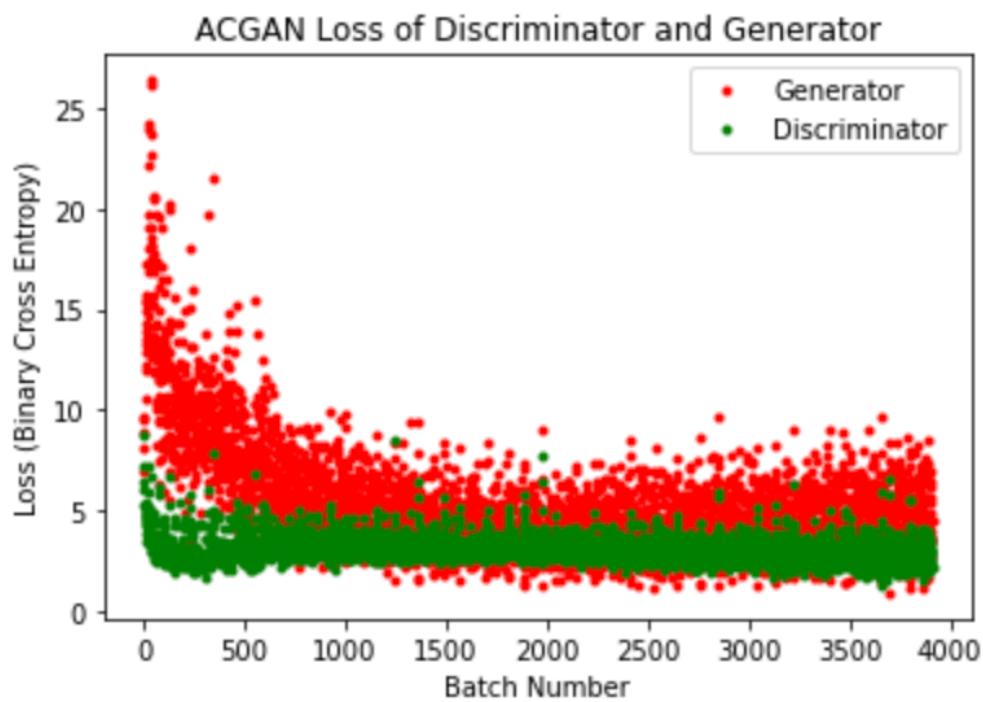


Figure 7: Loss Values during ACGAN training

GitHub link: <https://github.com/SandeepKOmmanaboyina>