

CSL4020: Deep Learning  
Assignment - 6  
GAN

In this assignment, you need to create a DCGAN. The difference between this type of GAN and the one introduced by [Goodfellow et al.](#) is that we use deep convolutional networks in the generator and discriminator architecture. Your task is to perform the following on the CelebA dataset:

- 1) Create a DCGAN based architecture. The generator must have an architecture as described [here](#). The discriminator must be as described [here](#). [3]
- 2) Implement the min-max loss function for the GAN based on the GAN loss described [here](#). [2]
- 3) Modify the loss function in the previous step to the one implemented by the Least-Squares GAN [paper](#). [2]
- 4) Perform the training in both parts 2 and 3. Visualize the images created in both the cases after the training is done. Compare their performance based on the FID score metric. To know more of this metric, refer to this link: [FID](#) [3]