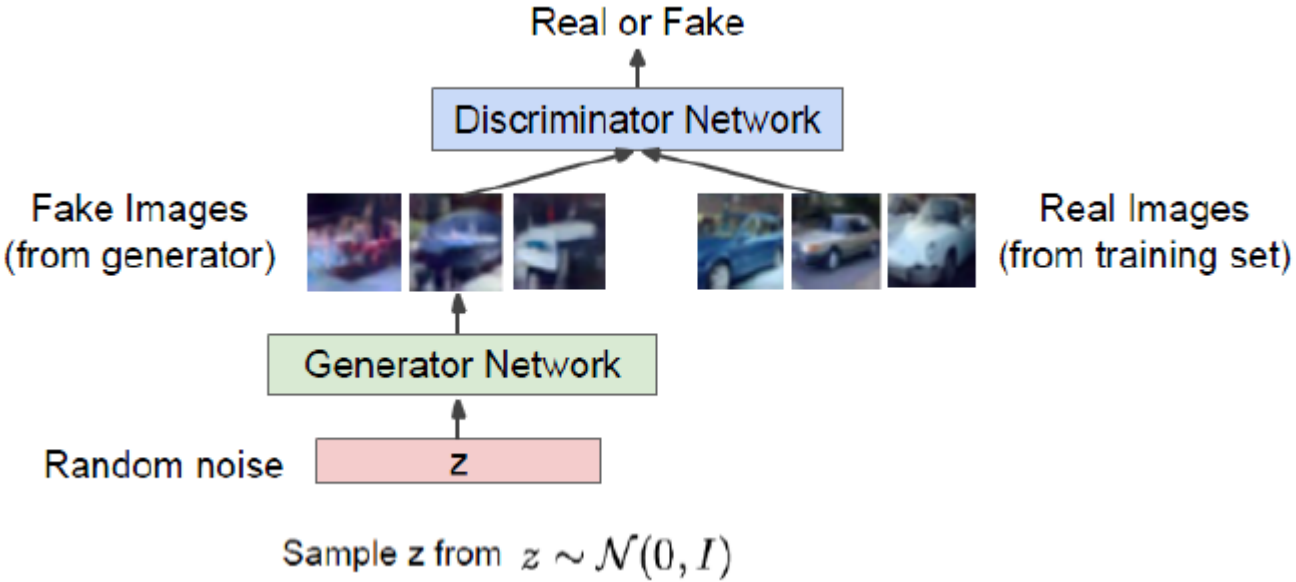
TF2-11.

GANs

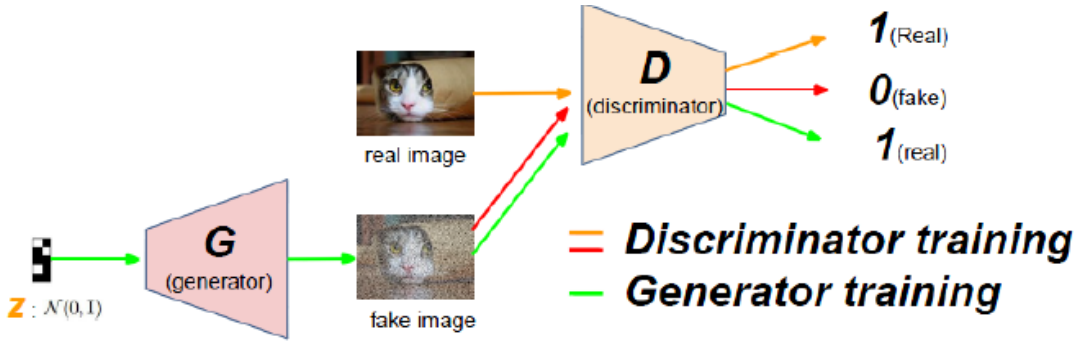
Dong Kook Kim

GAN Structure



GAN Cost function

- GAN



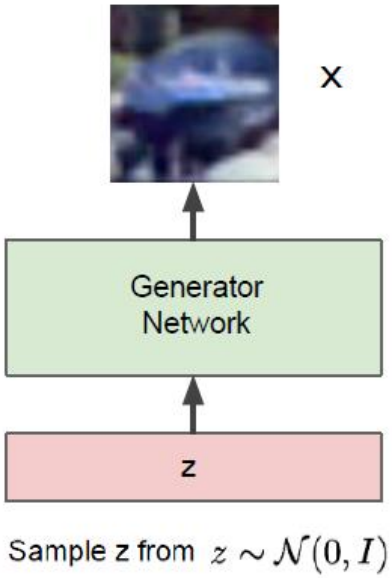
Alternate between:

$$\text{D}: \quad \max_{\theta_d} \left[\mathbb{E}_{x \sim p_{data}} \log D_{\theta_d}(x) + \mathbb{E}_{z \sim p(z)} \log(1 - D_{\theta_d}(G_{\theta_g}(z))) \right]$$

$$\text{G}: \quad \max_{\theta_g} \mathbb{E}_{z \sim p(z)} \log(D_{\theta_d}(G_{\theta_g}(z)))$$

GAN Generation

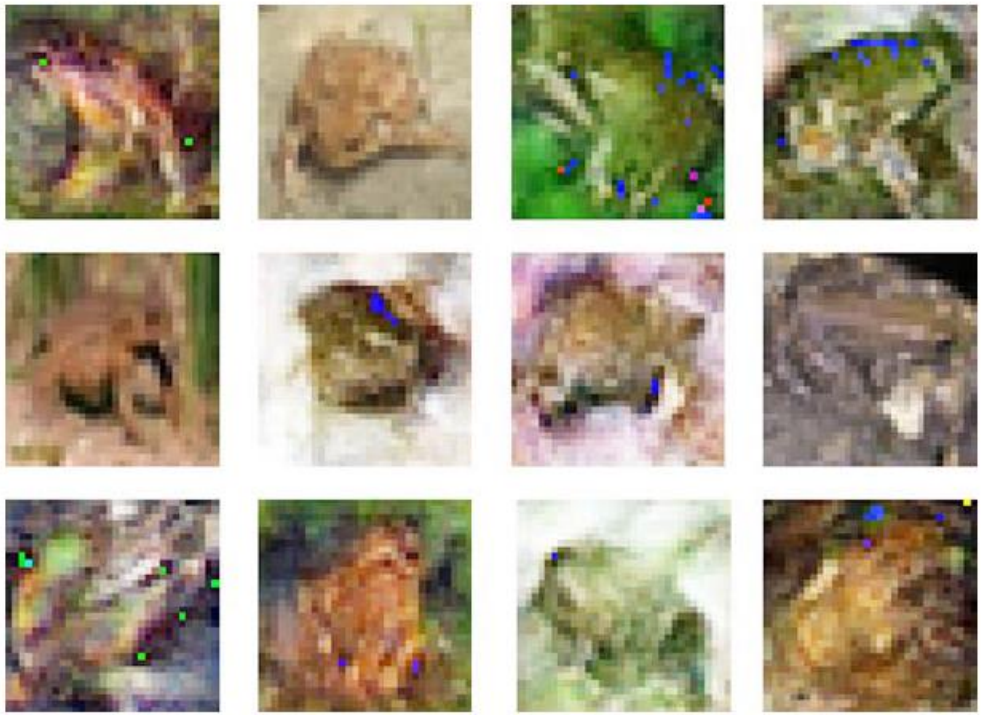
- Sample z from $z \sim \mathcal{N}(0, I)$
- Generate image x



Exercise 11-1.

Tf2-11-1-cifar10_GAN.py

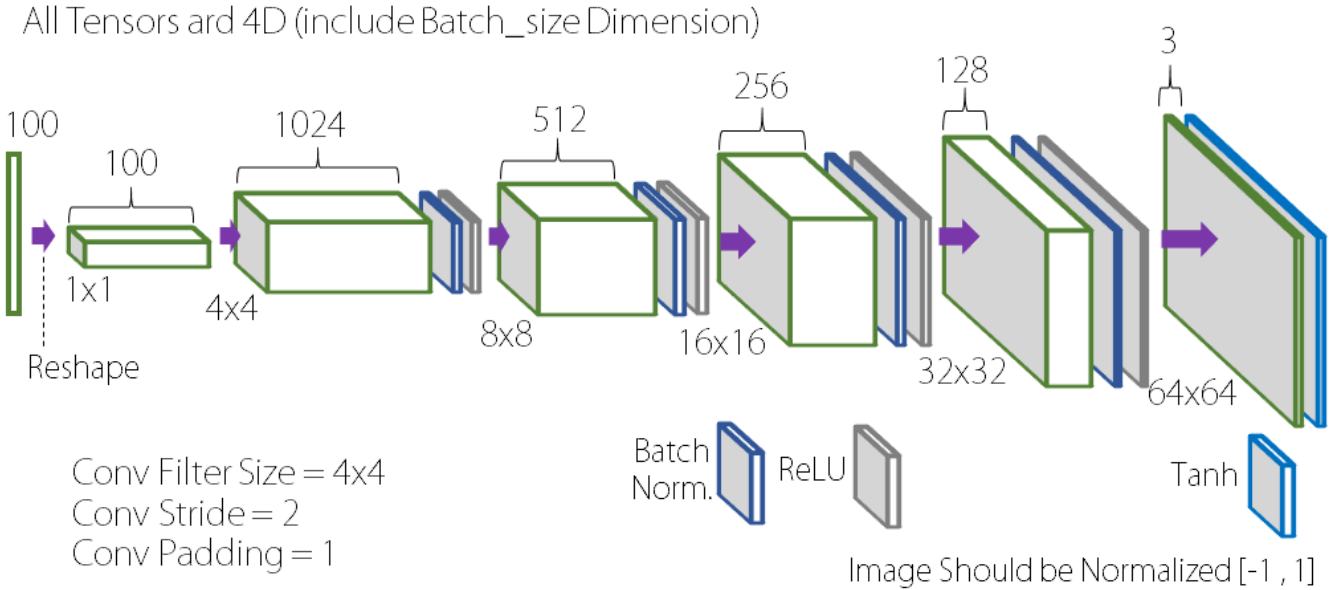
GAN : **Generation**



Exercise 11-2.

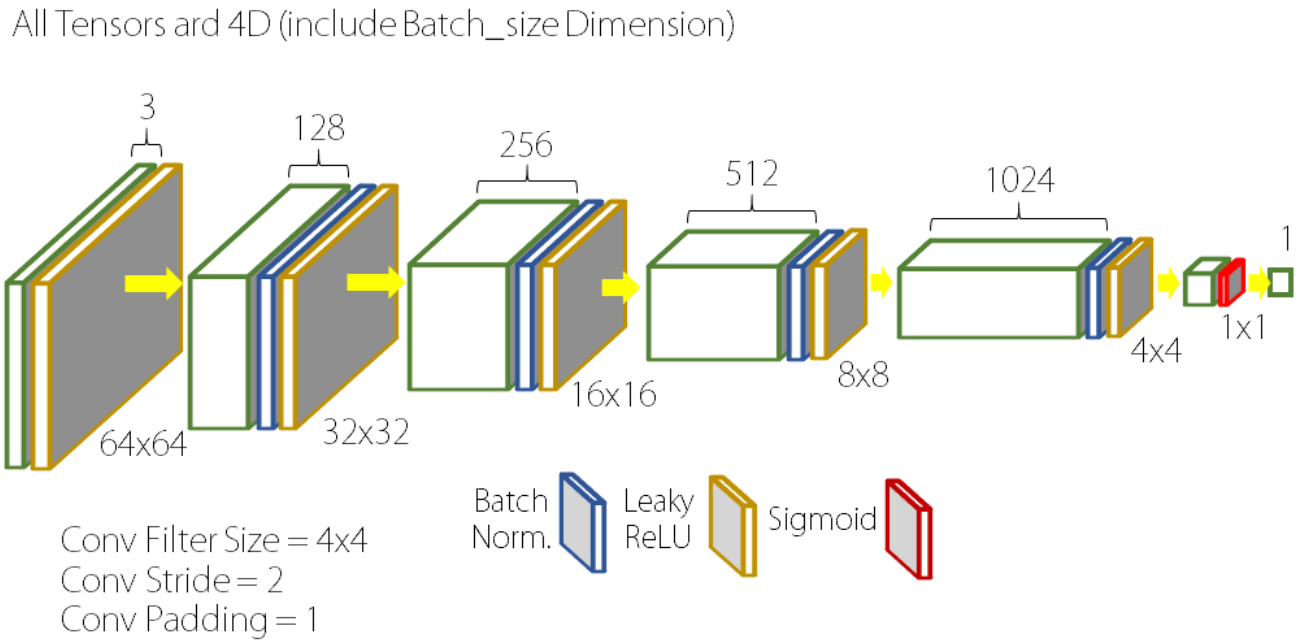
tf2-11-2-DCGAN.py

DCGAN - Generator



https://github.com/HyeongminLEE/Tensorflow_DCGAN

DCGAN - Discriminator



https://github.com/HyeongminLEE/Tensorflow_DCGAN

Results – CelebA data

https://github.com/HyeongminLEE/Tensorflow_DCGAN