Input image

DeConv layer 1

Conv layer 1

Conv layer 2

Conv layer 3

Resnet block 1

Resnet block 2

Resnet block n

Output image

DeConv layer

DeConv layer 2

Transformation

Dencoding

Encoding

Decision [0,1]

Conv layer 2

Input image

Conv layer

Conv layer 3

Conv layer 4

Conv layer 1

Conv Layer 1

Conv Layer 2

output

Resnet Block

inputt

Add

|  |  |  |  |
| --- | --- | --- | --- |
|  | *D(x)* tries to be near 1  x sampled from data  differentiable function *D* | D tries to make *D(G(z))* near 0, *G* tries to make *D(G(z))* near 1  *D*  x sampled from model  Differentiable function *G*  input noise *z* |  |

generator X to Y

real X

generated Y

discriminator X

generator Y to X

cyclic X

cyclic Y

generator X to Y

generator Y to X

real Y

generated X

discriminator Y

Generator F

(generates x)

Discriminator Dx

(x is real of fake?)

GAN2 (F,Dx)

GAN1 (G,Dy)

Generator G

(generates y)

Discriminator Dy

(y is real of fake?)