

IFT6135 A3 report

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VAE

```
~/udem/deeplearning/a3/code main*
> p Q1-VAE/vae.py
Using downloaded and verified file: binarized_mnist/binarized_mnist_train.amat
Using downloaded and verified file: binarized_mnist/binarized_mnist_valid.amat
Using downloaded and verified file: binarized_mnist/binarized_mnist_test.amat
VAE(
  (encode): Encoder(
    (mlp): Sequential(
      (0): Linear(in_features=784, out_features=300, bias=True)
      (1): ELU(alpha=1.0)
      (2): Linear(in_features=300, out_features=300, bias=True)
      (3): ELU(alpha=1.0)
      (4): Linear(in_features=300, out_features=200, bias=True)
    )
  )
  (decode): Decoder(
    (mlp): Sequential(
      (0): Linear(in_features=100, out_features=300, bias=True)
      (1): ELU(alpha=1.0)
      (2): Linear(in_features=300, out_features=300, bias=True)
      (3): ELU(alpha=1.0)
      (4): Linear(in_features=300, out_features=784, bias=True)
    )
  )
)
-elbo: 168.8407440185547
-elbo: 143.65472412109375
-elbo: 130.02281188964844
-elbo: 121.62398529052734
-elbo: 116.59355926513672
-elbo: 113.68669891357422
-elbo: 111.14551544189453
-elbo: 109.3432846069336
-elbo: 107.87801361083984
-elbo: 106.67015075683594
-elbo: 105.91639709472656
-elbo: 105.08293914794922
-elbo: 104.3656234741211
-elbo: 103.81536865234375
-elbo: 103.13601684570312
-elbo: 102.84823608398438
-elbo: 102.46185302734375
-elbo: 101.90535736083984
-elbo: 101.57086944580078
-elbo: 101.42766571044922
log p(x): -95.67327880859375
```

Figure 1: results of training VAE

GAN

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