Computer Science

Deep Learning & Deep Neural Networks

CS541-S20-191

Homework #7

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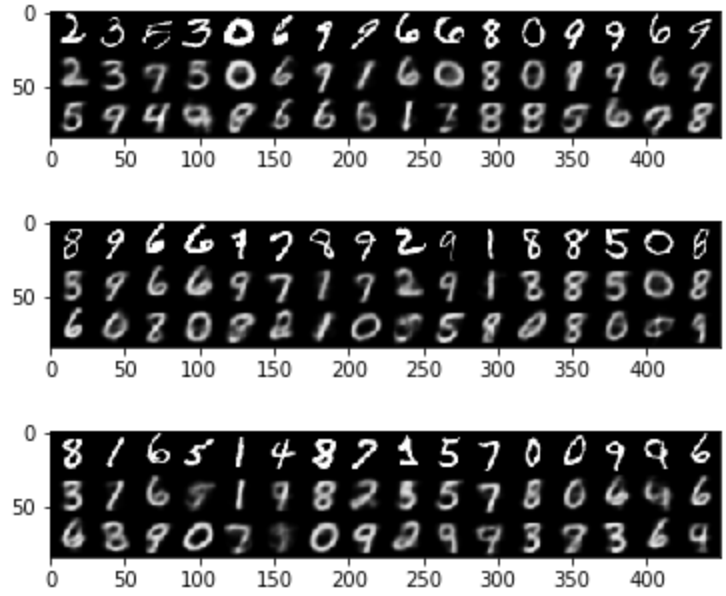
Variational Auto-Encoder Results

Here are some examples of our images. The first row is an example of the MNIST dataset, the second row is our VAE reconstruction of the first images and finally the third row is a set of random generated images from our VAE.

After searching for hyperparameters we found the following that provided the best results:

- Drop rate: 0.05
- Learning rate: 1xe-4
- Epochs: 500
- Batch size: 50
- L = 0.1

Additional libraries:
To visualize the images we used numpy and matplotlib. Numpy was used for loading data and for transforming pytorch tensors into a numpy array to facilitate plotting with matplotlib. We also imported the time library in order to measure the duration of each epoch. (**Note:** prof. Jacob agreed to add this libs since they do not involve the main network code).



Other hyperparameters:
Another set of hyperparameters tested were:

- Drop rate: 0.1
- Learning rate: 1xe-3
- Epochs: 150
- Batch size: 100
- L = 1