Approach

I started with he MNIST Image dataset and focused most of my time on these image sets. I found that the KMNIST was one of the more challenging and limited myself to 5 epochs for faster training. I started messing with some of the batch sizes leading to activations functions and the number of nodes. If I had more time, I would have increased the number of epochs.

I then created a regression problem bases on some data that I found on Kaggle. It is used to predict the cost of your health insurance. I built a simple linear model and produced a couple of graphs along with it.

Challenges

The challenge was building the model in pytorch and learning how Google colab worked so I could run it off their GPU. All of the metrics were tricky also.

Results

The exact results for the classification of the KMNIST data set are in the provided excel sheet. I reached around 93% with the best hyperparameters. This would be higher if I increased the number of epochs.

For the linear regression problem with only 100 epochs the line fits quite well.

Above and Beyond

I applied and dived deep into the mertics of these models. Taking Seaborn to create a heat-map of the confusion matrix. Going back to the principals of accuracy, recall and precision was a great refresher.

Assessment

I feel that i put in the effort of a 4. I did a lot more tweaking that the
excel sheet shows. There was also a lot of studying of best mertics that happened around this pr oject.