Neural Network Project

Summary:

In this project I am training a Multi-Class Neural Network on a dataset called "Fashion-MNIST". This dataset contains 10 different categories of clothing.

The data:

Each image is 28 pixels in height and 28 pixels in width, for a total of 784 pixels in total. Each pixel has a single pixel-value associated with it, indicating the lightness or darkness of that pixel. This pixel-value is an integer between 0 and 255.

The data comes in the form of 3 files:

1. train_x will contain the training set examples.

2. train_y will contain the corresponding training set labels.

3. test_x will contain the test set examples.

The Labels:

0 = T-shirt/top, 1 = Trouser, 2 = Pullover, 3 = Dress, 4 = Coat, 5 = Sandal, 6 = Shirt,

7 = Sneaker, 8 = Bag, 9 = Ankle boot.

Prerequisites:

For the development I used python 3.6 with the following libraries: numpy & scipy.

Results:

By running the file "main.py", the program trains the Neural Network and outputs to the debug console the results for the validation set.