notMNIST Report

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My initial neural net consisted of an input layer, 1 hidden layer and an output layer. I was able to achieve a 93.9% accuracy rate with this configuration. To improve this I decided to make a new model using convolutional layers.

I Used 3 convolutional layers going from 64 -> 128 -> 256 filters respectively, with 2 2x2 maxpooling layer between the first two. Next, I flattened the 2x2 output from the convolutional layer. Finally, I used a hidden dense layer to classify based on the features obtained from the convolutional layers . I settled on 3 epochs after several trials as it provided the highest accuracy rate without overfitting. The accuracy improved to 95.6%. Thanks to the increase in accuracy rate, some images in the data set that were previously not identified accurately are now being recognized (I had trouble verifying which ones specifically because google colab corrupted my models whenever I tried to export them).

Code running:

To run my code, upload the file to Google colab and execute all the code blocks in sequence.