Report: Part 3

The model used for these predictions (Complete) is a sequential neural network consisting of 4 dense layers with relu and sigmoid activation functions (and SoftMax of course as the last activation function). As we can visualize in the next figures, the notMNIST partial model didn't predict good results for the images, but after making some changes (adding more layers and changing the optimizer) the model works correctly and gives accurate results.

Although the previous model (Partial) gives correct answers sometimes, the percentage of correctness is very low and it's not compatible with the user's desires as we always want some accurate predictions. The partial model consists of using the sgd optimizer and only two Dense layers which is not enough for a dataset like this.

Consequently, we made some changes on the model to get the complete algorithm which will generate a model that is 93,1% accurate.

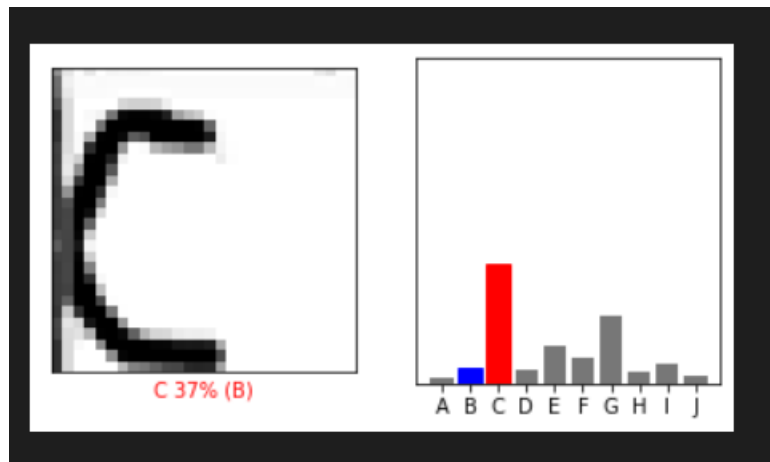## Predictions before changing the model's hyperparameters:
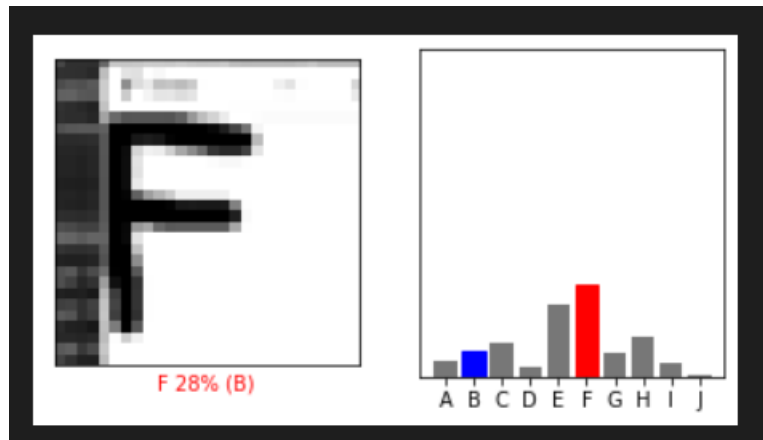

Figure 1: Prediction of C letter (Only 37%)
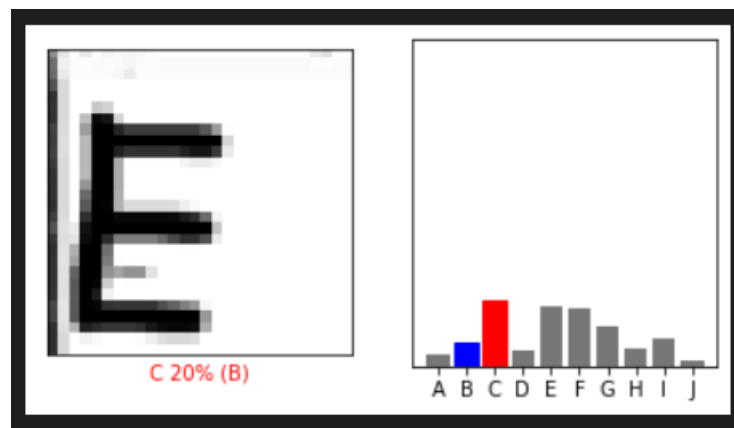
Figure 2: Prediction of F letter (Only 28%)

Figure 3: Prediction of E letter (model thinks it's C !!)

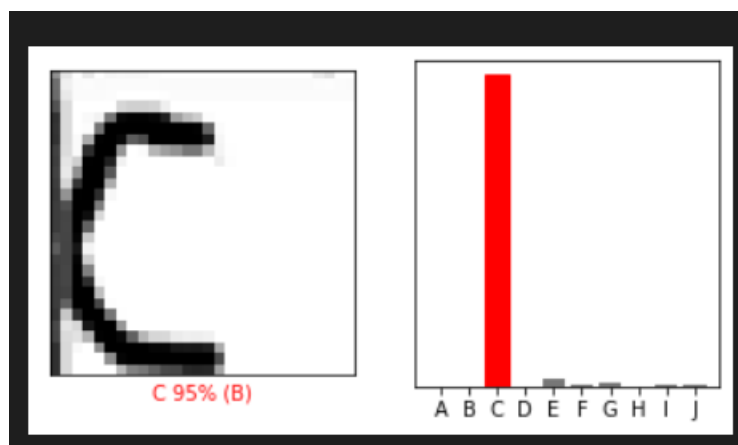## Predictions after changing the model's hyperparameters:

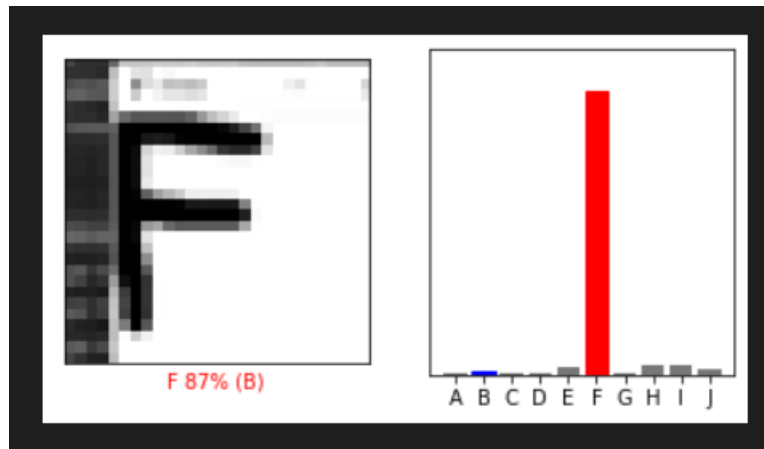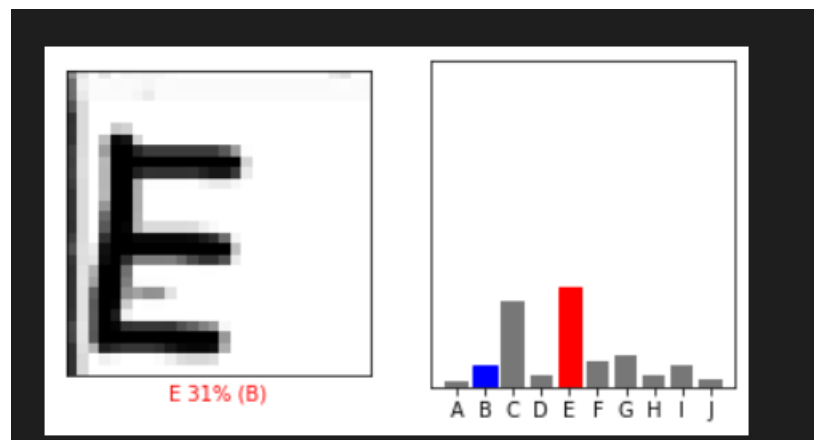Figure 4: Correct prediction of C letter

Figure 5: Correct prediction of F letter

Figure 6: Correct Prediction of E letter