FinTech Homework 3

Wu, Bo-Run (r08942073)

12th December 2020

1. CNN

1.1 I use two CNN layers and three DNN layers to construct the simple image classifier. I analyze the effect of both filter and stride size. The big filter size is used for large photos and capture more global features. For the stride size, small stride size is better at capturing more details of the photos.

1.2 Figure 1 is the loss of the CNN.

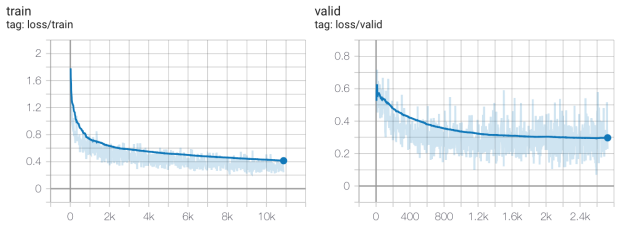

Figure 1: CNN Loss

Figure 2 is the accuracy of the CNN.

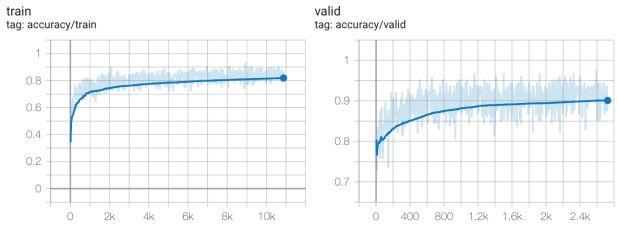

Figure 2: CNN Accuracy

1.3 Figure 3 is the original photo and the label is Trouser.

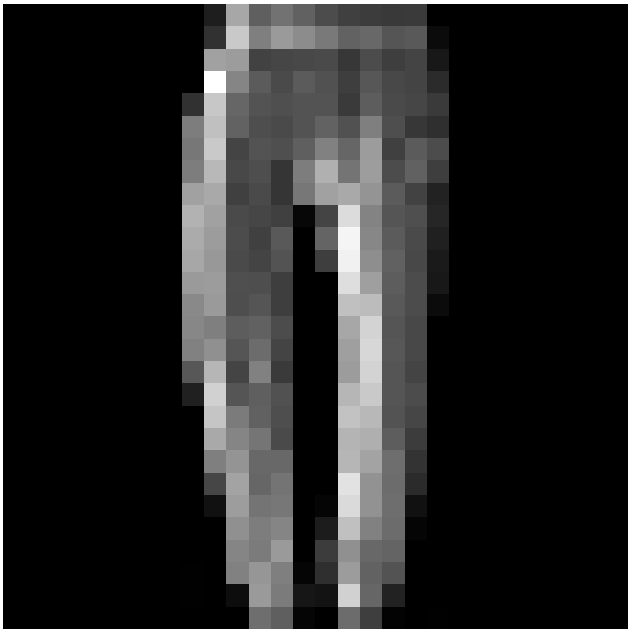

Figure 3: CNN Original

Figure 4 is the output of the CNN first layer.

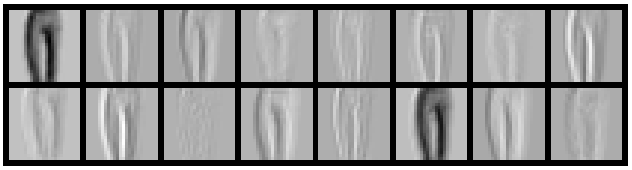

Figure 4: CNN Activation

1.4 Figure 5 is the prediction of the CNN.

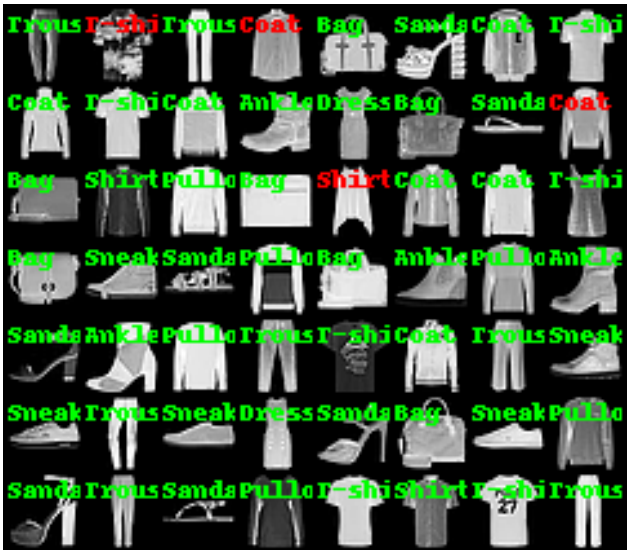

Figure 5: CNN Prediction

2. AlexNet

2.2 Figure 6 is the loss of the AlexNet.

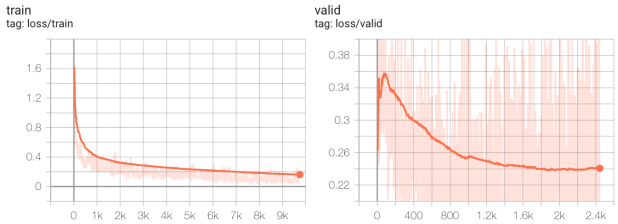

Figure 6: AlexNet Loss

Figure 7 is the accuracy of the AlexNet.

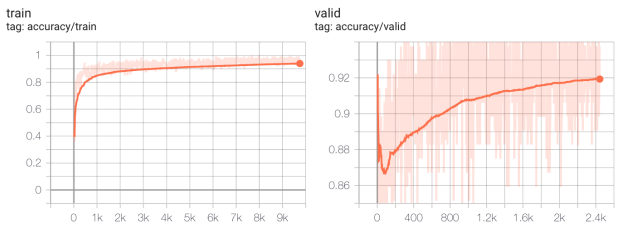

Figure 7: AlexNet Accuracy

2.3 Figure 8 is the original photo and the label is Trouser.

Figure 8: AlexNet Original

Figure 9 is the output of the AlexNet first layer.

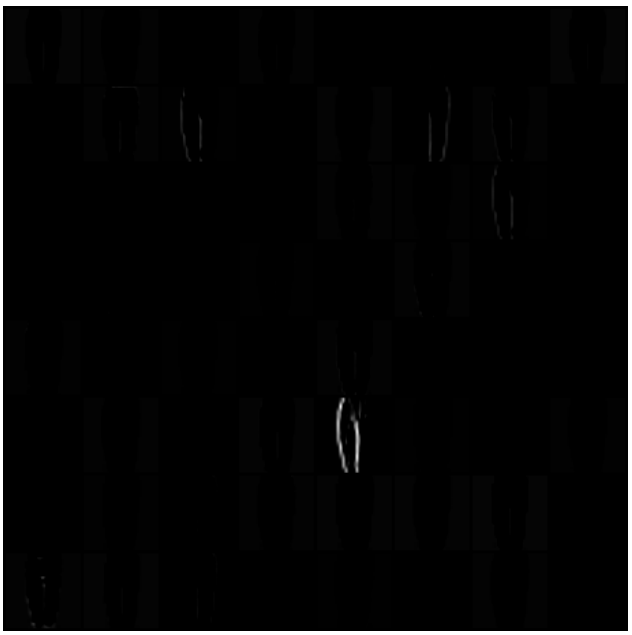

Figure 9: AlexNet Activation

2.4 Figure 10 is the prediction of the AlexNet.

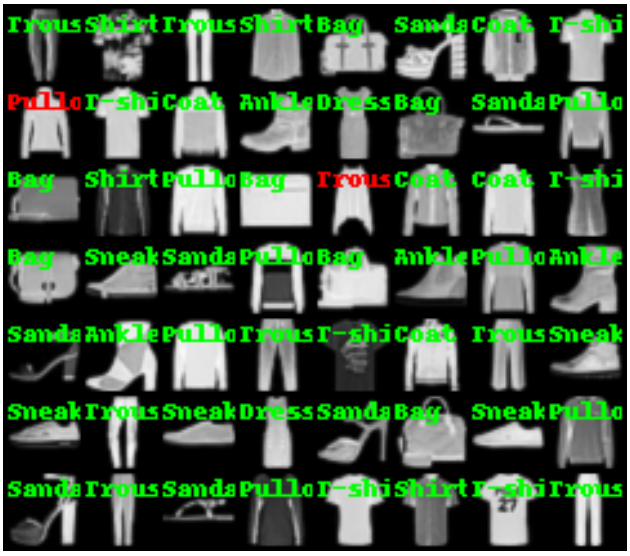

Figure 10: AlexNet Prediction