CS398 HW4: Deep Convolution Network

Yanjun Guo (yanjung2)

In this assignment, I used PyTorch to train a convolution network model. Firstly, I set up transformations for training and test data, so that when I load the data, I will have them normalized. In addition, I used vertical and horizontal flips for data augmentation in this step. Then I set up the network with dropouts, pooling and batch normalization. The model is trained with RMSprop optimizer. Learning rate is set to 0.001, and batch size is set to 500. After only 16 epochs, I got over 80% accuracy for testing set.

(Screen shot next page)

```
0 38.610000000000001 38.48275017738342
1 49.32 37.21247959136963
2 55.6 37.193352460861206
3 60.010000000000005 37.19603085517883
4 67.24 37.18972706794739
5 68.99 37.15761852264404
6 70.74999999999999 37.19870710372925
7 73.0 37.19582152366638
8 74.68999999999998 37.16483545303345
9 75.21000000000002 37.159727573394775
10 77.22 37.16249418258667
11 77.44 37.15456247329712
12 78.61999999999999 37.14571952819824
13 78.26 37.148484230041504
14 78.610000000000001 37.2003960609436
15 78.28 37.22903585433396
16 80.53999999999999 37.15013599395752
17 81.03 37.15829157829285
18 79.92999999999999 37.18361258506775
19 79.06 37.15163254737854
20 81.62000000000002 37.14791536331177
```