CS398_HW4

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In the homework 4, I used deep convolution neural network to classify the CIFAR10 dataset. I used 10 convolution layers where each filter had 3*3 filter size and stride was 1 and padding was 1. The number of channels were 64 for the first 2 layers, 128 for the next 2 layers, 256 for the next 2 layers and 512 for the final 4 layers. The 3 layers fully connected neural networks followed the convolution network. I used the batch normalization at convolution layer 1,3,5,7,9 and also used dropout at convolution layer 2,4,6,8,10 and all the fully connected layers. Maxpool was also used at convolution layer 2,4,6,8,10. To train the model, I used the 100 epochs and mini-batch adam optimization, which used 128 batch size. In order to avoid the overfitting, data augmentation like crop, brightness, contrast, saturation, hue, flip, normalize was used. I could get 82.89% test accuracy and 94.94% train accuracy as a result.