Spring 2022 Introduction to Deep Learning

Homework Assignment 4

Due date: May 1 2021

Problem (Build LeNet for colorful image classification). In this problem, you are asked to train and test a neural network for ***entire*** CIFAR-10 colorful image dataset. Some information of the network is as follows:

- Its structure is **modified LeNet**. You can check the 4th slide in Lecture 10 for details.
- An incomplete code has been given. You can fill it or re-write all the codes by yourself.

Performance Requirement and Submission:

- The test accuracy should achieve above 50%
- You need to submit **three** results: 1) network without dropout/batch normalization, 2) network with one additional dropout layer and 3) network with one additional batch normalization. Compare the results in your submission.
- Submission should include your source codes and screen snapshot of your train and test accuracy, plus the training time

Suggestion for hyperparameter setting (not necessary to follow): Check the default setting in the code. You are allowed to change them

About dataset loading: Check the default setting in the code. You are allowed to change them

Reminding: You can check PyTorch *torch.nn* to find the packed Batch Normalization and Dropout layer if you would like to use.