Deep Learning

2021 Spring

Project 2

CNN Image Classification Models

The purpose of this homework is to build a CNN architecture to classify the class of images. Two models should be constructed include Alexnet and your CNN.

Data sets

Please refer the CIFAR-10 dataset from Alex Krizhevsky's home page (https://www.cs.toronto.edu/~kriz/cifar.html):

The CIFAR-10 dataset consists of 60000 32x32 colour images in 10 classes, with 6000 images per class. There are 50000 training images and 10000 test images.

The dataset is divided into five training batches and one test batch, each with 10000 images. The test batch contains exactly 1000 randomly-selected images from each class. The training batches contain the remaining images in random order, but some training batches may contain more images from one class than another. Between them, the training batches contain exactly 5000 images from each class.

CNN Models

1. Alexnet
2. YourNet : That's a CNN architecture created by you.

Measure and Comparison

Our measure is precision, recall, F1, and accuracy for the 10 classes of CIFAR dataset on the two models.

Hand in Report:

1. Your model source codes (include Alexnet and YourNet)

2. Report the models you build and your results for each model and the result in .ppt file.

3. Submit your codes and reports in a Zip file and will share your results in class.