DLSR\_lab3-2\_3

Introduction

The lab is going design a scalable residual network with three hyperparameters: depth, width, and resolution.

Experiment Setup

* Python 3.7.4
* Pytorch 1.2.0
* Pytorchvision 0.4.0
* Pillow 6.1.0
* Matplotlib 3.1.3

Workflow

1. Data Preprocessing
2. Test on Validation Data
3. [Loop] Train on Training Data
4. [Loop] Test on Validation Data
5. [Loop] If the Validation Accuracy is better, then save the weights
6. Test on Testing Data with the last saved weights

Data Preprocessing

1. Random Horizontal Flip with p = 0.5
2. Resize to (RESOLUTION \* 32, RESOLUTION \* 32)

Structure

1. CNN (floor (32 \* WIDTH)) + BN + ReLU
2. Type 1 Layer: Block (64 \* WIDTH) x DEPTH
3. Type 1 Layer: Block (128 \* WIDTH) x DEPTH
4. Type 1 Layer: Block (256 \* WIDTH) x DEPTH
5. Type 1 Layer: Block (512 \* WIDTH) x DEPTH
6. Fully-connected Layer

Result

Discussion

Other