# Assignment 2 Writeup

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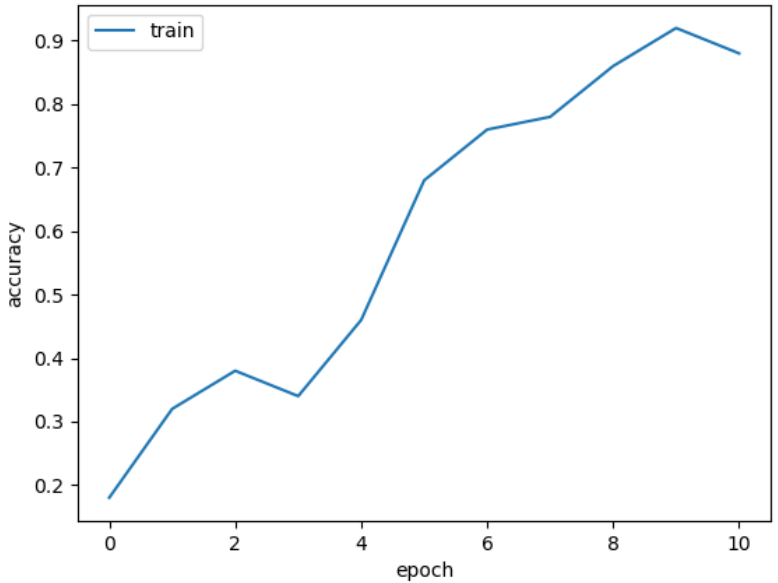
# Part-1 ConvNet

Put your learning curve here:



# My CNN Model

Describe your model design in plain text here: I used the same layers as in vanilla conv, but changed the out_channels, kernel_size, and learning_rate

Describe your choice of hyper-parameters: Even when I benchmarked well-known models for CIFAR-10, it was still giving me less than 0.5 accuracy, so I thought it could be the learning rate that is slowing down the training, so I tried increasing it, and it significantly increased the accuracy. Also, for out_channels, I experimented with different numbers. As I increased out_channels from 32 to 64 and 64 to 128, the performance kept increasing, but the running time was too long for my laptop to handle, so I fixed it at 64. Decreasing the kernel_size also helped the performance.

What's your final accuracy on validation set? 0.6740

# Data Wrangling

What’s your result of training with regular CE loss on imbalanced CIFAR-10?

Fill in your per-class accuracy in the table

| | Class 0 | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| CE Loss | | | | | | | | | | |

What’s your result of training with CB-Focal loss on imbalanced CIFAR-10?

Tune the hyper-parameter beta and fill in your per-class accuracy in the table

| | Class 0 | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| beta=? | | | | | | | | | | |
| beta=? | | | | | | | | | | |

Put your results of CE loss and CB-Focal Loss(best) together:

| | Class 0 | Class 1 | Class 2 | Class 3 | Class 4 | Class 5 | Class 6 | Class 7 | Class 8 | Class 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| CE Loss | | | | | | | | | | |
| CB-Focal | | | | | | | | | | |

Describe and explain your observation on the result: