

Mount Google Drive

```
In [ ]: # Cell 1
from google.colab import drive
drive.mount('/content/drive')
```

Part1: Implementing CNN from Scratch

```
In [ ]: # Cell 2
%cd /content/drive/MyDrive/'<path_to_unzipped_files>'/hw2/student_version
```

Load CIFAR-10 data

```
In [ ]: # Cell 3
%cd data
!sh get_data.sh
%cd ..
```

Cross-check your implementation

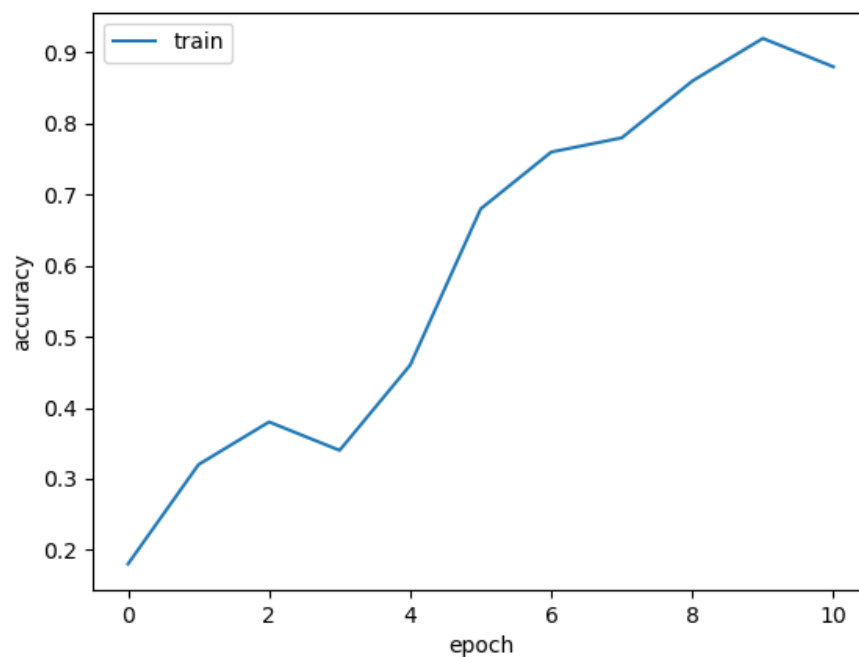
```
In [ ]: # Cell 3
# If you get an error saying test not found, add an __init__.py file in t
# tests directory
!python -m unittest tests.test_conv
```

Train your ConvNet

```
In [ ]: # Cell 4
!python train.py
```

Visualize Part-1 training curve

```
In [ ]: # Cell 5
from IPython.display import display, Image
display(Image(filename='part1-convnet/train.png', width=500))
```



Zip your Part-1 submission

```
In [ ]: # Cell 6
!python3 collect_submission.py
```

Part2: PyTorch

```
In [ ]: # Cell 7
%cd /content/drive/MyDrive/'hw2.zip (Unzipped Files)'/hw2/student_version
/content/drive/MyDrive/Colab Notebooks/f22-dl/hw2/part2-pytorch
```

Load CIFAR-10 data

```
In [ ]: # Cell 8
%cd data
!sh get_data.sh
%cd ..
```

Train your Two-Layer Net

```
In [ ]: # Cell 9
!python main.py --config configs/config_twolayer.yaml
```

Train your Vanilla ConvNet

```
In [ ]: # Cell 10
!python main.py --config configs/config_vanilla_cnn.yaml
```

Train your own model

```
In [ ]: # Cell 11
```

```
!python main.py --config configs/config_mymodel.yaml
```

Zip your Part-2 submission

```
In [ ]: # Cell 12
# If you get an error saying test not found, add an __init__.py file in t
# tests directory
!python3 collect_submission.py
```

Assignment 2 Writeup

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How does the training curve in Part-1 look like?

It is a positive result, since we see accuracy increasing as a function of the number of epochs. We see a dip between epochs 2 and 3, which means that between those epochs the model actually got worse, but that was not a problem, since it quickly recovered and achieved over 90% accuracy.

What are the accuracies with these networks?

- Two-Layer Network: 0.3315
- Vanilla ConvNet: 0.4318
- My ConvNet model: 0.6399