PR3 Reports

**Part 1A Report**

1. System Environment

I ran my code on my 2017 MacBook Air through the built-in terminal. My computer has a 1.8 GHz Intel i5 core with 8gb ram and 128 GB storage space. Additionally, I have Ubuntu 20.04.1 along with Python 3.6.5, Anaconda 2020.02, PyTorch 1.7, NumPy 1.18.5 and CUDA 10.02.

1. How to Run the Code

To run this code, open the file the code is located in and run the line “**python3 part1a.py**” on a command line. This will allow the program to compile and begin running, no other input is needed.

1. Accuracy of the Prediction

After running my code through 10 epochs, my accuracy was at 59%.

**Part 1B Report**

1. How to Run the Code

To run this code, open the file the code is located in and run the line “**python3 part1b.py**” on a command line. This will allow the program to compile and begin running, no other input is needed.

1. Kernel Size and Stride of all Convolution Layers

All the convolution layers have a kernel size of 5 and a stride of 1. The padding of all of the layers is 2.

1. Kernel Size of Pooling Layer

The kernel size of the pooling layer was set to 2. The stride of the pooling layer was also set to 2.

1. Learning Rate, Momentum and Batch Size

The learning rate was initialized to 0.002, the batch size was 100. Since I was using the Adam optimizer, I did not have any value for momentum.

1. Accuracy

My accuracy was a little lower than my part 1a accuracy at 51%

**Part 2**

I did not have enough time to run my code to produce all the feature maps required. However, based on how a fully convolutional network works and the feature maps it produces, I expect that each feature map highlights areas depending on the objects around it. Depending on the object, it will be shaded a certain color up to its edges. Although parts of this feature map might be good at shading objects, most likely it will not be as accurate as possible and may contain areas with no color where there should be.