

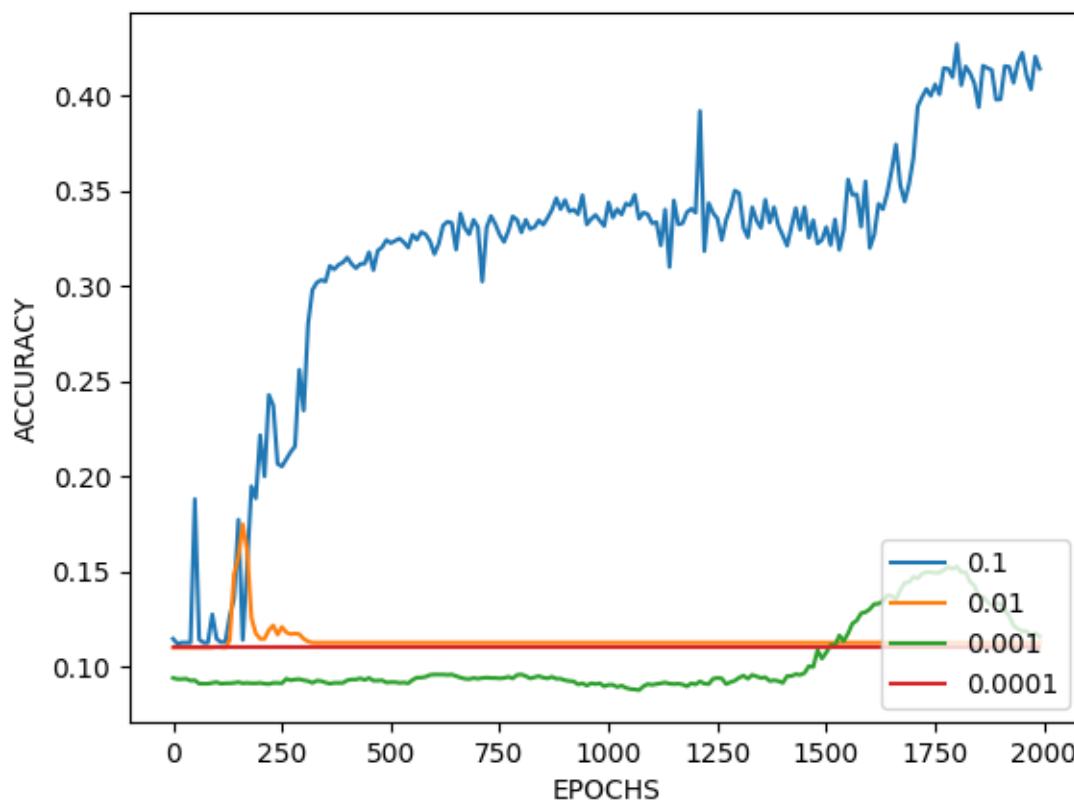
Usman Ahmed

Deep Learning Lab

Exercise-2 Report

In this Exercise the tasks were mainly focused on getting to know using tensorflow. It was interesting as I analyzed the performance of convolutional neural networks on CPU and GPU. Initially I had problems setting up tensorflow as I tried to get it to work with AMD instead of Nvidia but I couldn't get it to work so I started working in the computer pool instead.

The First task was mainly setting up the neural network with tensorflow. It was not a very difficult task. After setting up all the layers, as specified in the exercise I moved on to task 2 and tested the effect of different learning rates. I obtained the following graph.



This shows that increasing the learning rates produce better results. The plots obtained for 0.01 and 0.0001 were not very useful since the number of iterations were not enough.

The third task was testing the performance of convolutional neural networks on GPU with respect to CPU. We were supposed to do that by changing the number of filters for the convolutional layer. The time for GPU seemed very promising but I could not successfully get the GPU script to work. Unfortunately it always resulted in an error and hence I could not obtain a plot. The plot for CPU is follows.

