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## Tensorflow

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**CSC 492/592 on Piazza** <no-reply@piazza.com>

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To: arasdar@uri.edu

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### Tensorflow

Just wanted to add a note here. I completed the Tensorflow notebook this weekend, while I had access to an Nvidia GPU. The whole setup process took about 4 hours (accounting for troubleshooting). But if I ran into no problems, it would take about an hour to install. While I will not be publishing a guide for installing everything you need for tensorflow, I can try and help you, if you choose to install Tensorflow for the GPU.

If you have an AMD graphics card, it cannot be used for this assignment, I tried that too. The OpenCL framework support is lacking

I did consider publishing a CPU only Tensorflow Docker Image, but I ran my final passing 7-layer model on the CPU and the results did not look good. It took a little over an hour to do 10 epochs and get to 71% validation error. On the GPU it took a little under 2 minutes to do the same thing. Considering I trained 6 models before settling on this one(not including debugging), I do not believe CPU-only tensorflow is an option. Also I did not use docker, I ran the CPU model natively, on a modern overclocked Desktop CPU. The overhead of virtualization, along with the scale of the assignment leads me to say that you will need to install a GPU framework natively on your OS, or use Google Cloud Platform for part 5 of the assignment.

Model from Assignment	CPU Time	GPU Time
SimpleModel	12.5s	3.29s
ComplexModel	1min 38s	5.47s
MyModel	1hr 6min 32sec	1min 46s

This is just another example of GPUs being the choice of Deep Learning Researchers

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11/13/2017

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