

Problem Set 3 Report

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Shortcomings of my code:

- accuracy is low.
- I didn't shuffle training data before each epoch, as there is some bug on the shuffle function that I didn't have time to fix.
- The GPU version needs some more fine tuning.

What I have done :

- The CPU version works. The lost continuously decrease in each epoch as shown in the picture
- Debug info is printed only in the source file “blas.c”

Version	Processor	Accuracy	Grind Rate	Training Time	TPB/Cores
GPU	V100		1.3M pic/sec	1.9s	1024
GPU CuBlas	RTX6000		294,117pic/sec	8.5s	1
CPU	Apple M1	80%	574 pic/sec	3750s	8
CPUBlas	Apple M1	80%	2083pic/sec	1210s	1

The used CPU-blas implementation is Openblas.

Observation about randomness's effect: the accuracy could fluctuate a little bit on a given fixed number of training epocs if I use different seed to generate initial W and B.

