

# Project Milestone 4

07-400

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## 1 Progress Report

Progress was a little slow due to unexpected the unexpected learning curve with working with TPU over collab/cloud. Although I had the model implemented, my main issues were with data preprocessing the criteo dataset; google collab would time out if I tried to preprocess it over the cloud, so it was a real headache working around that. Although google cloud has a preprocessed criteo dataset ready to go, I could not figure out how to upload my own model modifications.

I met with Rashmi Vinayak's phd student, Jason, for tips, and he recommended that I preprocess the data on my local machine, and upload it using a google drive connection. It seems to work, and I have much more data to work with now to run my tests on.

Furthermore, I have done a little more reading on TPU experiments and found out that TPUs seem to work better with smaller batch size. I will figure out how to set that parameter in my model.

## 2 Major Changes

Although I have had a setback this past week, I will wait until next week to see if I have to make a major change. Currently, I believe I can get back on schedule with some extra committed time towards my project.

## 3 Meeting your Milestone

I have baseline results for non-modified TPU/GPU benchmarks, but I need to run the approximation models on the newly uploaded dataset. I think running the previous models again would

also be a good idea, since I can use the entire dataset now without risk of timing out. I would consider this milestone half reached.

## **4 Surprises**

Surprises include difficulties working with the limited run time of Google Collab and the headache that is Google Cloud. Thankfully, Jason has helped me out of this rut.

## **5 Revisions to your 07-400 Milestones**

I have no revisions to make at this time.

## **6 Resources Needed**

The current resources I need are Google Cloud TPU credits which the google people will apparently supply to me. I am currently running on a free account which is good enough so far.

## **References**