

15-418 Checkpoint

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1 Update

Unfortunately, we have been extremely busy with other deadlines and as a result, have not been able to work too much on this project in particular. We have decided to do the image segmentation project, as we have a clearer idea of what to do for the project in particular. So far, we read over the paper thoroughly and implemented the basic algorithm, although not tested it or finished the Find and Join commands. Fortunately, both of us have time opening up soon, and so we can contribute substantial amounts of time and energy to this project. We hope to be able to complete the serial implementation and one of the parallel implementations, to be on track to our proposed schedule from before.

We may have less time to work on overall optimizations, but other than that, our goals have not really changed. We have also decided that the best way to present our findings is probably through speedup graphs that will visually display the potential performance gains. We may potentially be able to demos of image segmentation, depending on how fast the algorithms run, just for fun!

We are concerned that we may have to make minor improvements on the algorithm in the paper and this might take time to explore, so we need to start as soon as possible. It may also take time to really optimize for how the GPU works, this was one of the things that authors mentioned they may not have gotten right. But it require detailed knowledge and testing.

2 Updated Schedule

First half of this week (including Wednesday): read paper and thoroughly understand basic implementation (Joseph). Figure out basically how to do OpenMP and CUDA for both and who will do which. Second half of this week: finish sequential together, one of us will work on OpenMP and one on CUDA implementations

Week 5: Individually work on optimizations for their implementation, syncing up to update and provide advice on potential improvements. The later half of the week will be devoted to analysis of the programs

Week 6: Complete optimizations, together work on the paper and demo/poster