## Fall 2020

## **CSCI 6454: HW5 (12 points)**

## **Hackathon On Parallel Computing**

We will run a hackathon in class on the 19th of November (Thursday).

Please pick a topic from the following ones:

- --Implement a parallel merge-sort algorithm (I will post resources for the idea)
- --Implement a parallel sample sort algorithm (I will post resources for the idea)
- --Implement a parallel k-selection algorithm, i.e., finding the k-th minimum number (I will post resources for the idea)
- --A parallel/multithreaded twitter crawler: given keyword/location/time, extract relevant tweets using appropriate API (do some research on it)
- --Implement parallel single-source shortest path algorithm (do some research on it)
- --Implement any clustering algorithm (e.g., K-means) from ML using MPI/OpenMP (do some research on it)

You may want to start working on your implementation right away (now). You must show me the results/output of your code in the class to get the credit. I am particularly interested in seeing the speedup plots.

After the in-class demonstration, you need to upload your work here on Moodle.

DEADLINE: In the class of 19 November 2020 Thursday 3:30-4:45pm.