

## Homework 5

**Due Friday, March 1, 2021**

Create a tree with  $2^{18}$  nodes in parallel, and initialize each node with a random number between 0 and 1. Then, in parallel, traverse the tree and count the number of nodes whose value is less than 0.5. You should use parallel tasks, and when the number of nodes at some level  $i$  in the tree is greater than the number of cores, do not create any more tasks but have each existing task search the rest of the tree. Time the time to do this sequentially and in parallel.