



BA/SA/MA/Group/Lab:

Counting 1, 2, 3 ...

Using synchronization instructions such as compare-and-swap while implementing parallel algorithms can adversely affect the actual cost even though the asymptotic cost indicates otherwise. Consider the simple task of implementing a counter that is shared amongst several processes.

One can implement this in $O(n)$ time per process without using compare-and-swap or in $O(\log n)$ time per process using compare-and-swap. However, this asymptotic difference in performance might not present the true picture due to the costly compare-and-swap instruction. The goal of this thesis is to analyze and theoretically model this performance difference.

Requirements: Interest in creating and analyzing parallel algorithms.

Interested? Just drop by for a chat!

Contacts

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