
Studying the Performance of Vector-based Quicksort Algorithm

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The performance of parallel algorithms is often inconsistent with their preliminary theoretical analyses. Indeed, the difference is increasing between the ability to theoretically predict the performance of a parallel algorithm and the results measured in practice. This is mainly due to the accelerated development of advanced parallel architectures, whereas there is still no agreed model for parallel computation, which has implications for the design of parallel algorithms.

In this study, we examined the practical performance of Cormen's Quicksort parallel algorithm. We determined the performance of the algorithm with different parallel programming approaches and examine the capacity of theoretical performance analyses of the algorithm for predicting the actual performance.

Keywords: Python, Quicksort, Performance Modeling.