Abstract

Finding shortest path for various applications is important in various domains. But to provide result for complex graphs in real time is a challenging task. So in this paper four shortest path algorithms namely Dijkstra’s algorithm, Floyd Warshall, Bellman Ford and Johnsons algorithm are studied and analyzed to detect parallelism in them and the parallelized version of all three is implemented using parallel computing framework OpenCL. It is found that Bellman Ford and Floyd Warshall contains fine grained parallelism while Johnsons has less parallelism.

References

A Comparative Study on Analysis of Various Shortest Path Algorithms on GPU using OPENCL


Index Terms

Computer Science

Algorithms

Keywords

Bellman-Ford, Dijkstra, Floyd Warshall