Abstract

Till now serial computing has been used for performing all the tasks. But as the data for processing increases the load on the single node system also increase. This paper elaborates the use of parallel computing instead of the serial computing at times when the system has to process a large amount of data. The project deals with implementation of Floyd Warshall Algorithm i.e All Pair Shortest Path. This algorithm is implemented using parallel programming concept for faster solution. This is a research based project in which the serial and parallel computations are compared. Floyd Warshall algorithm has overcome the drawbacks of Dijkstra’s and Bellman Ford Algorithm. For parallel programming, the project is implemented using NVIDIA GPU (NVIDIA GeForce 820M, 410M) for which CUDA (CUDA Toolkit 6.0) is used. [13] The purpose of developing this project is to find the shortest path
between all the present nodes in a graph. This system is designed to work on a large dataset (set of 4 to 1024 nodes). This project can be implemented for Airline Systems, Transportation services, Courier Services, Networking.

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Index Terms

Computer Science Programming Languages

Keywords

Floyd Warshall Algorithm Parallel Programming CUDA NVIDIA GPU.