Abstract

A systolic parallel system based on simultaneous forward and backward dynamic programming is proposed for the solution of the shortest path problem. The speed-up advantage of this fast systolic solution to this problem is very important in applications such as shortest-path routing in wireless networks for instance. The merit of this method becomes clear in a straightforward manner when the number of stages of the directed acyclic graph (DAG) through which the shortest path is derived is odd, although an even number of stages can also be accounted for.

References

- Hong, K. S., Choi, L. 2010. DAG-Based Multipath Routing for Mobile Sensor

Index Terms

Computer Science  
Algorithms

Keywords

Systolic array; directed acyclic graph; dynamic programming; least cost; latency; throughput