Abstract

Travelling salesman problem (TSP) finds applications in wide domains. It is a well known NP Hard problem. In this paper we have proposed GPU based implementation for TSP using OpenCL based on Multi colony Ant System. A comparative analysis is done among the standard travelling salesman problem, multi colony based implementation of travelling salesman problem and GPU based implementation. It is found that GPU based implementation is most efficient in terms of execution time and average tour length.

References

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Index Terms

Computer Science

Algorithms

Keywords

Travelling salesman problem OpenCL Graphical processing unit(GPU) Ant colony optimization.