

MEMETIC ALGORITHM A METAHEURISTIC APPROACH TO SOLVE RTSP

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ABSTRACT

There are some real world problems like TSP which cannot be solved with traditional mathematical methods. Difficulties associated while solving them traditionally forced the researchers to find some alternative solutions. Nature inspired algorithms are one of the proposed solutions. Genetic algorithm (GA), Memetic algorithms (MA), Ant colony optimization (ACO) and Simulated Annealing (SA) are some examples of them. All these algorithms are also considered as optimization algorithms as they give solutions which are very near to optimal. In this paper, a Memetic algorithm is proposed to solve a variant of TSP known as Random Traveling Salesman Problem (RTSP). RTSP is a problem in which the TSP dataset is created randomly, and then it is passed to one of the selected algorithm to solve it. Results obtained are compared to the results obtained by Genetic Algorithm and a conclusion is given.

KEYWORDS: Memetic Algorithms, Genetic Algorithms, Local Search, Traveling Salesman Problem, Random Traveling Salesman Problem