

Impact of Population Size on Symmetric Travelling Salesman Problem Efficiency

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Abstract : Genetic algorithm (GA) is a powerful evolutionary searching technique that is used successfully to solve and optimize problems in different research areas. Genetic Algorithm (GA) considered as one of optimization methods used to solve Travel salesman Problem (TSP). The feasibility of GA in finding a TSP solution is dependent on GA operators; encoding method, population size, termination criteria, in general. In specific, crossover and its probability play a significant role in finding possible solutions for Symmetric TSP (STSP). In addition, the crossover should be determined and enhanced in term reaching optimal or at least near optimal. In this paper, we spot the light on using a modified crossover method called modified sequential constructive crossover and its impact on reaching optimal solution. To justify the relevance of a parameter value in solving the TSP, a set comparative analysis conducted on different crossover methods values.

Keywords : genetic algorithm, crossover, mutation, TSP

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