Abstract

Galaxy based Search Algorithm(GbSA) is one of many Nature-Inspired Algorithms that has an impressive performance on continuous optimization problems. GbSA also promises good performance for the case of discrete problems such as combinatorial problem the Travelling Salesman Problem due to Spiral Chaotic Movement operation that become a powerful operator in searching solution process and Local Search that improve the obtained solution.

This Final Assignment introduces GbSA to complete the one-dimensional symmetric TSP. GbSA major development for this TSP lies in Spiral Chaotic Move, which is modified with inverse mutation, and Local Search which is used Simulated Annealing.

The test results indicate that GbSA also performs well for the TSP. From the four cases examined.

Keywords: galaxy based search algorithm, travelling salesman problem, spiral chaotic movement, inverse mutation, local search, simulated annealing.