

## Comparison between ant colony and genetic algorithm using traveling salesman problem.

### ABSTRACT

The Travelling Salesman Problem (TSP) is a complex problem in combinatorial optimization. The aim of this study is compare the effect of using two distributed algorithm which are ant colony as a Swarm intelligence algorithm and genetic algorithm. In ant colony algorithm each individual ant constructs a part of the solution using an artificial pheromone which reflects its experience accumulated while solving the problem and heuristic information dependent on the problem. The results of comparison show that ant colony is high efficient than genetic algorithm and it requires less computational cost and generally only a few lines of code.

**Keyword:** Ant colony; Genetic algorithm; Combinatorial optimization; Distributed algorithm.