

Abstract

Traveling Salesman Problem (TSP) is one of the most famous problems of distance optimization in computer science and research theory. The goal of optimization in TSP is about finding the best possible route that can visits each city exactly once and returns to the origin city. TSP includes part of optimization problems in a real world, such as finding for the optimum tourism route In Bandung Raya. The implementation of TSP the problem above is to find the optimum or the shortest tourism route which the tourist may passed the same path to reach the destinations but only can visit the destination exactly once. To solve the problem will be used Artificial Bee Colony (ABC) algorithm. The artificial bee colony algorithm (ABC) is one of the swarm intelligence algorithm and optimization algorithm based on the intelligent foraging behavior of honey bee swarm. The ABC algorithm is also a metaheuristic-based algorithm, to find the most optimum value for the case. The artificial bee colony algorithm has been chosen because ABC is a simple and flexible algorithm [14], and has the ability to avoid local minimum solution and can be efficiently used for multimodal and multivariable optimization functions [13]. The implementation of ABC algorithm to solve TSP problem gives result that ABC algorithm can only give an optimal solution for TSP problem with small problem size, whereas for big problem size the algorithm give less optimal solution. The ABC also will produce optimal distance if the size of colony size and iteration are used higher.

Kata Kunci: *Travelling Salesman Problem, swarm intelligence, Artificial Bee Colony Algorithm.*