Swarm Intelligence Algorithms' Solutions to the Travelling Salesman's Problem

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Abstract:
This paper presents research findings on the application of swarm intelligence techniques in computational intelligence to solve the travelling salesman's problem. The travelling salesman's problem finds real-life application in post office mail delivery, school bus routing, delivery of food to homebound people etc. After a number of experimental procedures, the study concludes that all the comparative algorithms are very efficient in providing solutions to the benchmark travelling salesman's problems considered, though the Discrete Cuckoo Search and the African Buffalo Optimization have a slight edge in performance over the other comparative algorithms. In all, the study agrees with earlier studies in reaching the conclusion that swarm-based optimization techniques are not only effective but also are very efficient in providing solutions to the travelling salesman's problems

Keywords: African Buffalo Optimization; Artificial Bee Colony; Bat Algorithm; Cuckoo Search; Firefly Algorithm; Hybrid Algorithm; Swarm Intelligence; Travelling Salesman's Problems

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