Abstract

Swarm intelligence is the collective problem solving behavior of groups of artificial agents. These agents local interaction with each other can be negative, positive or neutral. Here positive interaction helps agents to solve a problem while negative interaction block the agents for solving problem and neutral interaction does not affect the swarm's performance. In this work, incremental enhanced ABC algorithm with local search is used for reducing negative interaction without complexifying the agent's behavior. Here in the enhanced artificial bee colony algorithm, one additional phase in the form of mutation operator is used. With the help of mutation operator, algorithm may not be trapped into local optima due to the chance of changing local best position. The experimental results show that the performance of proposed algorithm and the proposed algorithm is compared with standard ABC algorithm, Artificial Bee Colony algorithm with mutation algorithm.

References

**Index Terms**

Computer Science

Artificial Intelligence
Keywords

Artificial Bee Colony  ABC  Genetic Algorithm  Mutation  incremental social learning  Swarm Intelligence.