Abstract

Artificial bee colony (ABC) algorithm has proved its importance in solving a number of problems including engineering optimization problems. ABC algorithm is one of the most popular and youngest member of the family of population based nature inspired meta-heuristic swarm intelligence method. ABC has been proved its superiority over some other Nature Inspired Algorithms (NIA) when applied for both benchmark functions and real world problems. The performance of search process of ABC depends on a random value which tries to balance exploration and exploitation phase. In order to increase the performance it is required to balance the exploration of search space and exploitation of optimal solution of the ABC. This paper outlines a new hybrid of ABC algorithm with Genetic Algorithm. The proposed method integrates crossover operation from Genetic Algorithm (GA) with original ABC algorithm. The proposed method is named as Crossover based ABC (CbABC). The CbABC strengthens the exploitation phase of ABC as crossover enhances exploration of search space. The CbABC tested over four standard benchmark functions and a popular continuous optimization problem.
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Index Terms

Computer Science  Algorithms

Keywords

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