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Abstract

Cuckoo Optimization Algorithm (COA) and Cuckoo Search Algorithm (CS) are two population-based metaheuristics. They are based on the cuckoo's behavior in their lifestyle and their characteristics in egg laying and breeding. Both algorithms are proposed for continuous optimization problems. In this paper, we propose a comparative study of COA and CS. For this we have proposed a binary version of COA (called BCOA) algorithm using the Sigmoid function like we have do in a later work, in which we have proposed a binary version of CS algorithm that we have called BCS. In aim to compare the efficiency of the too algorithms, we have used the proposed BCOA to resolve knapsack problem (KP) and Multidimensional knapsack problem (MKP) problems and we have compared the obtained results with those obtained by BCS.

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Index Terms

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Keywords

Combinatorial optimization, Cuckoo Optimization Algorithm, Cuckoo Search, Binary Cuckoo Optimization Algorithm, Binary Cuckoo Search, knapsack problem, Multidimensional knapsack problem.

