

# Comparing cuckoo search, bee colony, firefly optimization, and electromagnetism-like algorithms for solving the set covering problem

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The set covering problem is a classical model in the subject of combinatorial optimization for service allocation, that consists in finding a set of solutions for covering a range of needs at the lowest possible cost. In this paper, we report various approximate methods to solve this problem, such as Cuckoo Search, Bee Colony, Firefly Optimization, and Electromagnetism-Like Algorithms. We illustrate experimental results of these metaheuristics for solving a set of 65 non-unicost set covering problems from the Beasley's OR-Library. © Springer International Publishing Switzerland 2015.

Bee colony algorithm

Combinatorial optimization

Cuckoo search algorithm

Electromagnetism-Like algorithm

Firefly optimization algorithm

Set covering problem

Algorithms

Bioluminescence

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Factory automation

Problem solving

Bee colony algorithms

Cuckoo search algorithms

Electromagnetism-like algorithm

Optimization algorithms

Set covering problem

Optimization