Using the Firefly Optimization Method to Solve the Weighted Set Covering Problem

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The Weighted Set Covering Problem is a formal model for many practical optimization problems. In this problem the goal is to choose a subset of columns of minimal cost covering every row. Here, a Binary Firefly Algorithm has been developed to tackle the Weighted Set Covering Problem. Firefly Algorithm is a recently developed population-based metaheuristic inspired by the flashing behaviour of fireflies. Experimental results show that our approach is competitive solving the problem at hand.

Firefly Algorithm

Swarm Intelligence

Weighted Set Covering Problem

Bioluminescence

Fire protection

Optimization

Firefly algorithms

Formal model

Metaheuristic

Minimal cost

Optimization method

Optimization problems

Swarm Intelligence

Weighted set covering problems

Problem solving