Multi-objective Evolutionary Optimization of Dynamic Service Facility Location Problems

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Abstract

This paper describes a multi-objective evolutionary approach for solving multi-objective service facility location problems with dynamic demands. In this problem, the demands of customers are changing over a given period and one service facility will be built in each period. The objective of this problem is to determine a construction plan, while optimizing the transportation costs, facility maintenance costs and facility construction costs simultaneously in the given time period. A multi-objective genetic approach is proposed to solve the investigated problems. Five benchmark problems are designed and solved using a multi-objective evolutionary algorithm.

Keyword：Facility Location, evolutionary computation