Abstract

This paper presents a genetic algorithm (SA) for the classical multimode resource-constrained project scheduling problem (MRCPS). The objective is makespan minimization of the project. A new precedence feasible multi point forward backward crossover operator is presented. SA and GA are used in tandem to ensure balance in exploration and exploitation of search space. SA is employed as local search procedure, due to its stochastic neighborhood selection strategy to escape local optima hence a good exploitation strategy; and GA as exploration strategy due to its large number of population. Computational investigations are carried out on standard data set problems from PSPLIB and it is proved that hybridization of GA with SA gives competitive performance when compared with currently available algorithms.

References

An Annealed Genetic Algorithm for Multi Mode Resource Constrained Project Scheduling Problem

An Annealed Genetic Algorithm for Multi Mode Resource Constrained Project Scheduling Problem


Index Terms

Computer Science
Algorithms

Keywords
Resource constraints multi point forward backward crossover