

عنوان مقاله:

Investigating operational costs in multi-flexible job shop scheduling problem: Two multi-objective evolutionary algorithms approach

محل انتشار:

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خلاصه مقاله:

One of the most important factors in financial calculations of industrial companies is their operational costs of scheduling. In this paper, in order to create a more realistic model and get closer to real world issues of flexible job shop scheduling problem (FJSP), one operational factor will be added to classical FJSP. Optimization of operational costs due to production schedules is aim of the factor added. Another objective, considered in this study, is total work load which is a crucial factor in controlling and boosting production scheduling. Since in the literature of multi-objective flexible job shop scheduling problem (MOFJSP), this is known as an NP-hard problem, two multi-objective evolutionary algorithms, including controlled elitism non-dominated sorting genetic algorithm (CONSGA) and non-dominated sorting genetic algorithm (NSGAII) were adopted for MOFJSP. At the end, by developing well-known problems of the FJSP, we studied the performance of the proposed algorithms. The results obtained from algorithms were evaluated by famous metrics of the multi-objective evaluation statistically.

کلمات کلیدی:

flexible job shop scheduling problem, operating costs of scheduling, controlled elitism non-dominated sorting genetic algorithm, Non-dominated sorting genetic algorithm

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