

Scheduling batch processing machine problem with non-identical job size via artificial immune system

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Abstrak

This paper considers a single batch processing machine problem, in this problem, jobs with release time and size will be assigned into some batches and processed aiming to minimize makespan. Given that this problem is NP-hard, an immunoglobulin-based artificial immune system (IAIS) algorithm is used to solve the problem. The proposed IAIS algorithm has two meaningful features. First, the searching area is limited in the somatic recombination process in order to decrease the computational time. Second, several local search methods are mixed for use in each run to change neighbors and escape from local optimum. Comparisons with an algorithm for the problem are shown to verify the proposed IAIS. Comparison results have shown that the proposed IAIS algorithm has a better performance than the existing algorithm.