

A Genetic Algorithm for scheduling Projects with alternative tasks subject to technical failure

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Nowadays, organizations are often faced with the development of complex and innovative projects. This type of projects often involves performing tasks which are subject to failure. Thus, in many such projects several possible alternative actions are considered and performed simultaneously. Each alternative is characterized by cost, duration, and probability of technical success. The cost of each alternative is paid at the beginning of the alternative and the project payoff is obtained whenever an alternative has been completed successfully. For this problem one wishes to find the optimal schedule, i.e. the starting time of each alternative, such that the expected net present value is maximized.

This problem has been recently proposed by Ranjbar and Davari (2013), where a branch-and-bound approach is reported.

Here we propose to solve the problem using genetic algorithms.

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