

# Modified hybrid genetic algorithm of discreet optimization problems

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## Abstract:

The goal objective is to improve the efficiency of solving discrete optimization problems. The proposed method refers to the “fast” methods and was named the “Local genetic method”. The peculiarity of this method is that the chromosomes do not encode the whole solution, but only a small part of the plan. Therefore, the method allows us introducing unary and binary operations that take into account the specific nature of the problem. The important feature of the method is the non-deterministic nature of the computation, which is due to the internal parallelism of computations and is expressed in the asynchronous action of various local strategies. In terms of speed, the proposed method in a number of experiments outperformed the traditional algorithm by more than 10 times and always found the best solution. The nature of the approximation to the optimum for these algorithms remained unchanged when solving any test cases.

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