

TITLE **Overview and implementation of genetics algorithms
in educational software**

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HISTORY Defended 17 November 2006

ABSTRACT The aim of the master's thesis was to overview some of genetics algorithms, to create educational program which would help to learn theory and use of genetics algorithms. First thing was to precise the range of search. It has been chosen to describe most of mainly used methods. Considering methods of representation it has been concentrated on binary chromosomes but real-coded were not omitted. As a preface it has been explained basic concepts, schema theory and process of creation of genetic algorithms. Successively, in next chapter, it has been described such topics as: evaluation function, selection, crossover, mutation, inversion, fitness scaling, specialization. Further on the functionality of program has been briefly described. Next chapter include details of implementation – program has been written in Java, with use of Swing, and two external libraries (JEP and JFreeChart), as data input/output files program use XML files so this has been covered briefly. Penultimate chapter contains results of scientific research that had been conducted using the program. Then effect of work has been summarized.

KEYWORDS genetic algorithm, java, educational software

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