

# GENETIC ALGORITHMS

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Science development is an important and integral part of our life nowadays. Genetic Algorithms (GAs) show us one of the most progressive worldwide tendencies that become more and more popular every day.

The founder of GAs is John Holland. He decided to use genetic algorithms for his personal aims in 1975. Nowadays we can use it for working with graphs, making schedules, for introducing artificial intelligent and so on .You can chose any option that you like most of all.

To begin with, genetic algorithm is an evolutionary algorithm the main part of which is mating (crossover). It is easy to guess that this algorithm is related to nature. Therefore, by the method of running over and sectioning we will reach a property combination. Algorithms are divided into three steps: mating/crossover, selection and creation of new population.

If the result does not satisfy you, you can repeat steps until you get one of the next conditions: the amount of loops will reach the maximum that we have chosen before, or the time for mutation runs out.

Let consider each step. Creating a new population is the stage at which we create an initial population, which quite possibly is not as good as we want it to be, but the algorithm will correct this problem. The main thing is that it has to be in the right “format” and “adapted to mating”.

Mating/ crossover works like with people – to get a descendant, two parents are required. The main thing is that the descendant (a child) can inherit from his parents their features.

Mutations are similar to multiplication. A certain number of individuals are selected from mutants and subsequently changed in accordance with predetermined operations.

With selection begins the sweetest thing as we begin to choose from the population the proportion of those who “go further”. It is sad, but the rest of the individuals must die.

To sum up, Genetic Algorithm gives us a great opportunity to develop artificial intelligence and to improve routine work of making schedules. It was one of the greatest inventions of the XX century and it becomes more useful in the XXI century.

## **REFERENCES**

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