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Genetic algorithms are a randomized search method based on the biological model of evolution through mating and mutation. In the classical genetic algorithm, problem solutions are coded into bitstrings that are tested for their suitability, after which the best bitstrings are combined to form new solutions using methods that mimic the Darwinian process of survival of the fittest and the exchange of DNA that occurs during mating in biological systems. Programming genetic algorithms does not go much further than bit manipulation and scoring the quality of solutions. Genetic algorithms have been applied to a variety of problems, such as partitioning graphs and automatically creating programs to match mathematical functions.

Genetic algorithms are a randomized search method that "produces" effective solutions to problems through simulation of Darwinian Evolution. Large numbers of potential solutions are created randomly. The most promising solutions are then grown together to produce new solutions that extract most of their 'genetic stock' from the better solutions of the previous generation. This is similar to the "survival of the fittest" shown in biological systems, where the individuals best adapted to their environment breed more offspring, resulting in the better adapted genetic material that is transmitted to future generations.

# Genetic Selection

Charles Darwin is a very well-known man, as he was the person who processed the theory of evolution, but what exactly does this theory mean?

Darwin said that evolution took place through a process of natural selection or survival of the fittest. This meant that the animals and plants best suited to their environment survived and were able to pass on their genes to their offspring. The animals and plants that were not the most suitable, died and did not get the chance to reproduce. Animals and plants had to change or evolve due to the pressure of the environment.

The theory of natural selection is actually quite easy, the organisms that do not succeed in eating, reproducing, breathing, moving or observing (i.e. have no conscience), will not succeed in staying alive.

# Implantation In Mechanical Operation

For example, if we could apply this theory to a game, we could create a Genetic Algorithm. For example, if we put 10 "creatures" in a Chrome Dinosaur game and teach them to walk, they can figure out for themselves how to stay on the screen, so find a way to survive (what exactly is evolution).

What we need:

* Fitness program
* Game (Chrome Dinosaur game?)