Solving the Traveling Salesman Problem with Genetic Algorithms

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The genetic algorithm works by mimicking the mechanism of chromosomes and genes in evolutionary biology. The algorithm works by creating a random 'generation' of solutions to seed the iterative process. Each individual solution – called a 'chromosome' – has a random solution to the problem at hand, at first.

The iterative step of the process works by using a method to pick the fittest members of each generation and selecting them as parents for the next generation. Pairs of parents are 'crossed over', where the parent solutions are co-mingled, and finally, a bit of randomness is added by 'mutating' some of the solutions with random adjustments. The process then repeats, for a certain number of generations or until some fitness level is reached.

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