Nature-inspired Monte Carlo algorithm for travelling salesman problem

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Abstract. The aim of this project is to solve the travelling salesman problem (TSP) which consists in finding the shortest hamiltonian cycle among all the cities in a set of cities.
The problem is a *NP-hard* problem and therefore there exist no feasible algorithm to solve it exactly for any possible set of cities in input. Therefore, the project explores the performance obtained by simulated annealing whose states (i.e. cycles) are produced by a genetic algorithm.
The report shows the result of the simulations computed on some cities of northern Italy and compares the exact feasible solutions with the approximated ones.