

OPTIMIZATION OF TOURISM ROUTES IN NGAWI DISTRICT USING GENETIC ALGORITHM METHODS

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ABSTRACT

Tourism in Indonesia is growing and developing very quickly. This is inseparable from the role of the community in developing tourism objects in the vicinity. An important issue for tourists is to find the optimum route, both in terms of distance and time required to choose the optimum route during holidays. Tourists must know the shortest distance and the fastest time from the tourist's position to the destination tourist attraction, but it is often not easy considering the many choices of routes that must be taken. In the optimization effort through technology based on artificial intelligence, it is hoped that it will be able to optimize the most efficient route. The method that will be used is a genetic algorithm. A genetic algorithm is a search algorithm based on Darwin's natural selection mechanism and genetic principles to determine the high-quality structures (each called an individual) present in a domain (called a population). Optimization using genetic algorithms is one method that is quite widely used by experts in the field of artificial intelligence so that it is quite up-to-date in route optimization. The system that is built is made in software which is expected to be used by the wider community. The ability of the genetic algorithm is expected to increase the accuracy and effectiveness to choose the optimum route in terms of distance and time.

Keywords: Optimization, Artificial Intelligence, Genetic Algorithm, Traveling Salesman Problem