

ABSTRACT

SARS-CoV-19 or better known in Indonesia as COVID-19 is a disease originating from bats and then transmitted to humans through unknown animal intermediaries. After this disease spread from Wuhan, Hubei Province, China, it spread throughout the world and finally to Indonesia. The massive growth of the COVID-19 disease in Indonesia can be analyzed with optimization parameters. An optimization parameter requires an algorithm that is used to display the desired data. A Genetic Algorithm is used to process it optimally.

Genetic Algorithm has a function as an optimization of the rate of COVID-19 to determine the rate of COVID-19 must have a basic function to determine the growth of a value. The genetic algorithm has several important parts such as genes, population, alleles, chromosomes, individuals, and fitness values. For the Fitness value itself, it is very influential on the beta and delta values to be used, the higher the fitness value, the better the beta and delta values themselves.

The COVID-19 rate parameter analysis is presented in GUI form in the Matlab application. Based on beta testing that has been done by distributing questionnaires, obtained a percentage of 85%, which means the questionnaire is valid and has very high reliability, In testing the genetic algorithm, the reference value of beta is 68.6599 and delta is 9.8217. So the value of the most optimal number of chromosomes is 10, with a beta value of 64.9382 and a delta of 5.6234.

Keywords: *Coronavirus, Genetic Algorithm, Optimization.*