

Abstract

The Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2) is the cause of Coronavirus Disease 19 (COVID-19). Some patient infected with this virus can suffer pneumonia and acute respiratory syndrome disease. 19. RT-PCR (Reverse Transcription Polymerase Chain Reaction) is most used method to detecting this virus, but this method has one drawback which is take a long time to detect. One solution in detecting COVID-19 can use Image Classification, one of the most common method for medical image analysis is CNN (Convolutional Neural Network), CNN itself has proven successful in image classification. Genetic Algorithm (GA) has been widely used in algorithm optimization, with the idea "survival of the fittest" where the best gen will survive. The goal of this study is to create a model that can detect COVID-19 through CT-Scan images. The result of this study is a CNN model with accuracy of 73.58%, f1-score of 74.33% in predicting COVID-19 with CT-Scan image. The parameters used for the CNN model are 32 Feature Maps, 2 Kernel Sizes, 0.0001 Learning Rate, 0.5 Dropout, 6 Convolutional Layers, using MaxPooling2D and 256 Nodes.

Keywords: COVID-19, CNN, GA