

ABSTRACT

Covid-19 is a phenomenon that cannot be forgotten by the world. At the end of 2019 to be precise in Wuhan, China the Severe Acute Respiratory Syndrome Coronavirus-2 (SarsCov-2) virus was discovered and developed, until the World Health Organization (WHO) designated Covid-19 as a pandemic on March 9, 2020. The rapid development and transmission of this virus was overwhelmed. One way to find out someone is positive for Covid-19 is by looking at the X-Ray results of their lungs. The X-Ray results will be analyzed to determine the state of a person's lungs. The purpose of this study is to classify the X-Ray results of the lungs which are divided into three classes, namely positive for Covid-19, normal, or Pneumonia.

The method used in this study consists of feature extraction method using Local Binary Pattern (LBP) and classification method using Random Forest. This study uses training data and test data in the form of X-Ray image of the lungs which are divided into three classes including normal lungs, positive for Covid-19, and Pneumonia. The steps carried out on the image before classification are feature extraction, then the results of feature extraction will be classified.

Based on the results of tests that have been carried out using 1,200 images divided into 900 training data and 300 test data, the system can identify Covid-19 based on X-Ray images of the lungs and classify them into three classes. The highest accuracy results obtained were 85.67% using variations in image resizing 200x200 pixel, extraction radius of LBP= 8, and the number of trees in the Classification Random Forest= 200.

Keywords: Covid-19, X-Ray, Local Binary Pattern, Random Forest