

ABSTRACT

Pneumonia is a disease that attacks the lung. When someone is suspected of having pneumonia, various examinations will be carried out to confirm the diagnosis, one of them is by examining the chest x-ray image. However, there is a possibility that the doctor/radiologist may make a mistake in interpreting it. To minimize this, a breakthrough is needed for assisting doctors/radiologists in analyzing chest x-ray image. One of them is by applying the use of Convolutional Neural Network (CNN), where it is hoped that CNN can be used for recognizing healthy and pneumonia chest x-ray images. However, some factors can cause the x-ray image to be bad, so it is possible that it can affect the CNN acquisition results. To overcome this, Contrast Limited Adaptive Histogram Equalization (CLAHE) is used to improve the image before the image is applied to CNN. Moreover, the use of several epochs and different image sizes is also applied to determine the effect on the results obtained by the model, which then the acquisition results were analyzed to find out which model get the best results. After testing was done, the best results were obtained on the model with the application of CLAHE on epoch 180 with a size of 256x256 which obtained an accuracy rate of 95,21%.

Keywords: *CNN, CLAHE, Pneumonia*