

ABSTRACT

IMPLEMENTATION OF HE, AHE, AND CLAHE ON CONVOLUTIONAL NEURAL NETWORK METHODS FOR X-RAY IDENTIFICATION OF NORMAL OR COVID19 INFECTED LUNG

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In early 2020, there were 114 countries with 118,000 cases of Covid 19 and 4292 deaths. Rapid and precise diagnosis is needed to deal with these problems, so it can suppress the spread of the virus which is increasingly widespread and uncontrolled. Accurate diagnosis can use x-ray image data, but for a fast diagnosis with large amounts of data need a solution. Solution could be solved using a classification method in deep learning, named Convolutional Neural Network (CNN). CNN is a method that is widely used in the medical world to deal with classification and segmentation problems through image data. The stages in this research are starting from data collection, literature study, image processing using CNN, evaluation of results, and image identification. This study compares HE, AHE, and CLAHE to the CNN accuracy obtained. The result, best model was obtained using HE 96 epochs with accuracy 96.68%, precision 96.71%, recall 96.68%, and f1-score 96.68%. While the AUC value obtained 96.7%.

Keyword : AHE, Covid 19, CLAHE, CNN, Deep Learning, HE, X-Ray