ABSTRACT

COVID-19 has become one of the big problems for countries in the world since 2020. COVID-19 and Pneumonia have many symptoms such as coughing and shortness of breath. Efforts to diagnose COVID-19 and Pneumonia are carried out by laboratory examinations and also chest X-rays. The chest x-ray images of COVID-19 patients have similarities with the x-ray results of Pneumonia patients, but radiologists managed to find that there are differences between the chest x-ray images of COVID-19 patients and the chest x-ray images of Pneumonia patients where there is a glass-like pattern. pounded on X-ray images of patients with the Corona virus.

Diagnosis is on the patient's chest x-ray image using the Deep Learning model. This study will also compare the performance of the Xception model using Transfer Learning with the performance of the Xception model without Transfer Learning. There are 4 configuration experiments on the Xception model without Transfer, namely training on the configuration of the base model layer, training on the custom head model, and training on the base model layer and custom head model. There are 2 experiments using Resnet50 and VGG16 models without Transfer Learning.

The Xception model using Transfer Learning has better performance than the Xception model without Transfer Learning. The four Xception model experiments without Transfer Learning and the second experiment with the Resnet and VGG16 models had accuracy above 85%. However, the model without Transfer Learning was not able to recognize Pneumonia on the patient's chest x-ray image.

Keywords:

Transfer Learning, Pneumonia, COVID-19, virus Corona, CNN, X-Ray, Deep Learning,