Abstract

Pneumonia is a virus, bacterium, and fungi infection disease which causes alveoli swelling and gets worse easily if it is not taken care of immediately. There are symptoms that can be recognized through x-ray images, for example the appearance of white mist in the lungs. A pneumonia classification system has already developed, but it still produced low accuracy. In this research we develop classification system by increasing the depth of CNN architecture using Residual Neural Network to improve accuracy from previous research. The dataset contains 2 classes which are pneumonia and normal, and trained to produce the best learning strategy with various scenarios. The model trained using data train that has been oversampling. The best scenario is achieved by ResNet152 architecture using dropout 0.5. This scenario achieved a result of 0.88 precision, 0.95 recall, 0.92 f1-score, and 0.89 of accuracy. The classification model on this research produces higher accuracy compared to the research of Enes Ayan, et.al. in 2019 which produced 0.87.