

ABSTRACT

Colon cancer is cancer with the most deaths in Indonesian society. Detection of disease through histopathological images of colon cancer still uses manual methods with readings by doctors. So it is necessary to do a system to detect and classify colon cancer. This study aims to create a colon cancer classification system for efficiency in classifying categories of colon cancer.

This research created a classification system for colon cancer types into two classes, namely adenocarcinomas, and polyps. The system is built using the Convolutional Neural Network (CNN) method with the MobileNet architecture.

The design of this system is made by analyzing the parameters that affect system performance based on the influence of image size, optimizer, learning rate, activation function, and Batch Size. Parameters used in evaluating system performance are Accuracy, Precision, recall, and f1-score. The results of testing the system based on parameters obtained the best model with image size 256x256 pixels, Adam optimizer, learning rate 0.0001, sigmoid activation function, and Batch Size 40. The best results of the best model are 100% accuracy value, 100% precision value, 100% precision value 100% recall, 100% f1-score, loss of 0.000135, and computation time of 358.91 seconds.

Keywords: Colon Cancer, Histopathological Images, Convolutional Neural Network, MobileNet.