ABSTRACT

Cassava is a food crop that is consumed by the majority of people as a staple food. With the growth of consumption and production of cassava every year, it is increasingly difficult for farmers to check the quality of cassava plants with more and more quantities every year. One of the factors that can damage the quality of cassava is cassava plant disease, the symptoms of cassava disease itself can be seen through visual inspection.

The author use a data image processing based on the Convolution Neural Network (CNN) algorithm which is one method of deep learning to classify disease symptoms in cassava plants through cassava leaf data images. The author compare the performance of the CNN architecture, namely MobileNet V1, MobileNet V2, MobileNet V3, and CropNet. There are 5656 data images in JPG format obtained from the website www.kaggle.com, which have been classified into five classes, namely CBSD, CMD, CBB, CGM and healthy (healthy leaves).

The best results obtained in this Final Project are using the CropNet architecture with hyperparameters in the form of Adam *optimizer*, *learning rate* 0.001, and *batch size* 32. The results obtained are 87.47% accuracy, 87% precision, 82% *recall*, and F1-*Score* of 84.2%.

Keywords: MobileNet V1, MobileNet V2, MobileNet V3, CropNet.