# ABSTRACT

Cassava is one type of cassava plant that is easily found in Indonesia and is one of the staple foods of the Indonesian people. Based on data from BPS, cassava production decreased from 2014 to 2018. The decline in cassava production can be caused by many things, one of which is pests and diseases that attack cassava plants. To simplify the process of checking the symptoms of cassava plant disease, you can use a developing technology, namely machine learning. This research was conducted with the aim of being able to create a machine learning-based system that can classify cassava diseases.

In this final project, the author uses a deep learning method which is one part of machine learning. The deep learning method used is convolutional neural network (CNN). This final project uses VGGNet architecture which is evaluated with parameters of accuracy, precision, recall, and F1-score. The dataset used in the training model is an image with a total of 9430 RGB images which are divided into 5 classes (CMD, CBSD, CGM, CBB, and Healthy). The dataset is separated into 7545 training images and 1885 test images.

Through testing of several scenarios carried out in this final project, the CNN model gets the best configuration, namely batch size 32, optimizer SGD, and learning rate $10^{-3}$. This configuration has a training accuracy of 82.53% with a validation accuracy of 75%.

**Keywords :** *cassava diseases, convolutional neural network (CNN), VGGNet, image classification*