

ABSTRACT

Fruit is one of the most abundant commodities in Indonesia. However, there are so many fruit plantation businesses in Indonesia that have the sorting process done manually. For fruit sales transactions, we often see the seller needs to input the fruit code using a digital weigher before calculating the price. Because of that, this final project will make an image processing system to detect fruit types so it can display the price automatically according to the fruit types. The fruit that will be a sample of image processing is an apple with types of Fuji and Royal Gala. The train data will use captured images from a smartphone camera. Learning model development will use Convolutional Neural Network algorithm that deploys VGG-16 transfer-learning architecture with Tensorflow and Keras library, written with programming language Python. The testing result is the system can identify two types of apples and display additional information in the form of price and fruit weight with an accuracy average of 97.42%.

Keywords: Convolutional Neural Network, Image Classification