

ABSTRACT

Domestic chicken eggs are one type of egg that is consumed by many Indonesian people. The marketing of eggs in the market has different types of quality that differ in terms of shape, color and weight of the egg. To determine the quality of eggs can be seen from the quality of internal and external parts. In this research, the system to be designed can study the types of domestic chicken eggs from the external part. The process of selecting egg quality from the production site is done manually with a very large number of eggs. With this method, the egg sorting process can be done more efficiently in terms of time and can cut human resources.

The system of this study was designed to determine the quality of an egg. The system was designed by using the Convolutional Neural Network (CNN) method with LeNet-5 as its network architecture. System input data used in this study is about 948 image data which is divided into four categories, such as AA (very good), A (good enough), B (good) and C (not good).

System designed with applying configuration of size image, optimizer, learning rate and epoch. The application of configuration produced several models which are continued to be tested and produces the output value in the form of accuracy, loss and precision. The result of this study obtained the best result with the accuracy 85,86%, loss 0,3779 and 0,8182 precision by models with Adam optimizer configuration, learning rate 0,001 and epoch 50.

Keywords: Domestic Chicken Eggs, Classification, CNN, LeNet-5.