

ABSTRACT

Chicken eggs are one of the most popular food sources of animal protein and are also very popular with the community, this is because chicken eggs have a relatively cheap and easily obtained price and can meet nutritional needs among the community. Race chicken eggs have a content consisting of 64% albumen, 27% egg yolk and 9% egg shell, the content affects the weight or weight of eggs produced from laying hens. However, the nutrient content contained in eggs is not always good and fresh, so it is necessary to detect egg quality. The quality can be seen one of them based on the weight they have, the longer the storage of chicken eggs, the lower the weight of chicken eggs.

In this research, a system will be made that can analyze the estimated weight of chicken eggs based on the storage time of the breed chicken eggs. The analysis will be carried out using the HOG (Histogram Of Oriented Gradient) method and SOM (Self-Organizing Maps) classification. The system testing process consists of a system testing process for the image of day 1 race chicken eggs and the image of day 10 race chicken eggs.

Based on the results of tests that have been carried out, the accuracy of 73.3333% is obtained with a computation time of 1.1336 seconds for testing the image of day 1 race chicken eggs and 73.3333% accuracy with a computing time of 1.1866 seconds for testing the image of day 10 race chicken eggs. In this final task, the results of the accuracy obtained from testing the image of the 1st day and 10th day of chicken eggs have the same accuracy, which is 73.3333%. The best computation time is when testing the image of day 1 race chicken eggs with results of 1.1336 seconds.

Keywords: *Eggs, Histogram Of Oriented Gradient (HOG), Self-Organizing Maps (SOM).*