ABSTRACT

Sheep are farm animals that are widely used by people in Indonesia. One of the uses of sheep is sheep carcass, where demand continues to increase over time. Sheep carcass is a net weight of meat without head, legs, internal organs and tail. Currently weighing the sheep is still done manually, that is by carrying the animal, suspect by looking at it and guessed subjectively. Because the vulnerable weight of the sheep has a weight below 40 kg. But this method only applies to experienced buyers, but has the potential to harm amateur or new buyers.

This final project aims to get the weight estimation of sheep carcass using the calculation formula of Ardjodarmoko and classify the sheep carcass into 3 classes of part that is big, medium, and small class. The first step is done by separating the body of the sheep with the background. After that, the identification process to get the physical size (chest circumference and body length). Furthermore, the system will perform feature extraction to get information in the image using the Fractal method. Once the image is obtained, it will then be classified by the closest distance method or K-Nearest Neighbor which will then be grouped accordingly.

From the test results obtained system accuracy value of 83.33% with a computational time of 0.49 seconds, using Fractal characteristic extraction method with the number of characteristic matrix equal to 6, s = [2 4 8 16 32 64]. While the K-Nearest Neighbor classification process, the best distance rule used is euclidean which yields the best accuracy value of 83.33% with the best parameter at the value of K = 1, and the system has an error rate of 16, 67%.

Keywords: Sheep Carcass, Fractal, K-Nearest Neighbors (KNN)