

ABSTRACT

Sheep are livestock widely consumed by people in Indonesia. The demand for sheep or goat carcasses continues to increase over time. Goat or sheep carcasses are the weight of headless flesh, legs, internal organs, and tails. The rise of fraud committed by sellers by making sheeps looks fat by giving them a lot of water (often called 'fake' sheep), makes buyers feel unsafe to buy sheep. Digital image processing will be implemented to create a system to overcome the problem of weight estimation of sheep carcass.

Digital image processing was used to determine the physical size of the body of a sheep. Image processing is done by detecting the edge of the sheep's body and ignoring the background. After that, the identification process is done to get the physical size of the body of the sheep (chest circumference and body length). The final project aims to design applications and apply digital image processing techniques to facilitate the estimation and classification of sheep carcasses.

In general, the system divided into 5 processes, namely: the acquisition of sheep image; Pre-Processing the image of sheep; Segmentation of sheep image; Feature extraction; and classification. Active Geometry Contour is a method that used for feature extraction, whereas Decision Tree is a method to be used as a method of classification rather than weight of sheep carcass. The estimation formula of sheep body weight that will be used in this Final Project is the formula from Arjodarmoko (1975).

The amount of the sheep that have been used as a sample at this system is 24 sheeps and divided into 3 classes there are big sheep which is its carcass is more than or equal to 10 Kg, medium sheep which is its carcass is more than 5 Kg, and small sheep which is its carcass less than 5 Kg. This study is expected to facilitate people in determining the weight of sheep carcasses, by capturing the image of the sheep. The average of delta weight (difference between real carcass weight and system's carcass weight) was 1.7373 Kg and the accuracy of classification was 75%. Average of computation time was 4.6453 seconds.

Keywords: Sheep Carcass, Geometric Active Contour, Decision Tree