

## ABSTRACT

Sheep is one of the many farm animals used by humans. Parts of the body of the sheep is often used by humans for food is on the meat or so-called carcass. The sheep's carcass itself is weight of meat used outside the weight of organs, legs, tail and head. At this time the weight measurement of sheep's carcass is still done in a conventional way such as weighing scales directly with the scales and through the interpretation of the buyer or the seller of the sheep. In both ways above there are still obstacles that can be happened to the buyer of sheep who still lay that cause losses. The development of information and communication technology gave a new breakthrough in helping the process of weighing the sheep by using digital image processing.

In this final project is made a system that can estimate sheep carcass weight by digital image processing. In general, the workings of digital image processing is to separate the image of sheep from the background and eliminate objects that are disturbing around the sheep, then the identification stage is done to get the size of the body and the chest circumference of sheep, and at the last stage do the computation calculate the carcass weight of sheep. In this application apply the Ardjodarmoko formula for calculating the weight of sheep carcasses. Image segmentation method used is Deformable Template method. The results of image segmentation will go through a feature extraction process which is then classified using the Multiclass Support Vector Machine (SVM) into three classes.

The number of sheep in the sample is 24. This study uses 3 classes in classifying the weight of sheep carcasses, namely small, medium and large classes. The average difference between sheep carcass weight from image processing with actual sheep carcass weight is 1.72 kg. Class accuracy results in this study amounted to 88.89%.

Keywords: Sheep's Carcass, Deformable Templates, SVM multiclass