ABSTRACT

Cows are one of the cattle animals that many people took benefit for. People raised the cows mainly to be used their milks and meat as human food. The cattle life weight can be predicted and known by measuring the chest circumference, body length, with conventional scales, visual prediction by humas or with settled formula. But these methods are less effective and still difficult to do. Therefore, to simplify the process of estimation a cattle weight so that the feeding and medicinal treatment are properly given, in this final project research is discussed about the identification and classification techniques of cattle weight using digital image processing techniques.

This digital image processing system that equipped with digital image registration is implemented to give alternative solutions in estimation the weight of cattle. The technique that used for feature extraction is image registration and Blob Detection, and Learning Vector Quantization (LVQ) as a classification process. Blob detection is a method that used to detect a set of pixel dots that have different colors (brighter or darker) from the background and unite them into a region. While Learning Vector Quantization (LVQ) is one of the competition-based neural network methods with squared euclidien distance mechanism in choosing the winning representative vector to determine the input vector category.

Obtained an accuracy rate of 76,2 % with the number of testing image is 21 images and the number of training image is 35 images from 7 cows that used. The results of this study are expected to be able to help cattle business players in the right standard of accuracy in knowing the weight of cattle.

Keywords : Digital Image Processing, image registration, Blob Detection, Learning Vector Quantization