ABSTRACT

People's awareness for a healthier life has been raise up, along with the foods and drinks. One of them is Cow's milk, Cow's milk advantageous for human body and its health, the material is made by a processed nutrients derived from animals, which comes from dairy cows that contains a lot of protein, calcium and fat that can keep your health of tooth and bones. Considering the material in the cow's milk is a liquid, so the consequence is hard to know the purity in plain view, especially for those located at the market. Cow's milk is easy to adulteration it can be added with others substance. Based on the earlier information, it is so worth it to find a model towards the determination of its purity condition.

In this research, the writer has a purpose to identification the purity that already in the cow's milk with see from the result of the video the droplet of cow's milk that has been filmed, with take a look from frame by frame so it can decided the fallen per drop. The detection will be used *Discrete Cosine Transform* (DCT) and classification support vector machine (SVM) method. Discrete Cosine Transform is a technique that is used to convert the signal into a frequency component basis, and SVM is a classification method that with the goal of finding the best hyperplane that separates the classes to exist.

According to the result of research on the system of identification and classification of cow's milk purity with shape and color parameter,the highest accuracy for shape identification was 82.5% with 92.5589 seconds of computation time and for color identification was 52.5% with 5.1749 seconds of computation time.

Keyword : Discrete Cosine Transform, Support Vector Machine