

ABSTRACT

Milk is a nutritious liquid produced by the mammary glands of a female mammals, such as cow. As time goes on, many milk seller reduce the quality of the milk to increase the profit. The quality of the milk is decreased as it is exposed by the air. The purity and the freshness level of the milk can be known from its color, taste, smell, and the acidity level.

In this era of globalization, the consumer needs a technology which can help them to measure the purity level of the milk. In this final project, the quality of cow's milk has been identified by processing the digital signal, using Gabor Wavelet method with Support Vector Machine (SVM) classification process. The Gabor Wavelet method selection is a good detector filter and enables an effective and adaptive algorithm. The Support Vector Machine (SVM) classification is chosen in applying the Structural Risk Minimization (SRM) strategy, so through the SRM strategy it can minimize errors in classification. This system has been applied by using Matlab software, it identify and classify the form and the colour of the milk.

The data of this final project is obtained by sampling some of pure milk and some of impure milk which has been mixed with water the amount of 120 images of cow's milk. The highest accuracy rate of this final project reaches 95% and computing time 4.0110 seconds.

Keywords : Cow milk, Gabor Wavelet, Support Vector Machine (SVM)