

ABSTRACT

Cheese is the food made from substances of the milk through the coagulation process with the help of bacteria or enzyme that is named rennet. Cheese is so beneficial because it contains full of protein and becomes favourite ingredient for many dishes. But, the producers make the cheese with many different quality. So there is the limit to cheese to become edible. Normally we can't see the quality of cheese only with eyes. This is the background of the author to choose the title of this final assignment.

In this final task the author examine how to detect the quality of cheese based on its texture. There are some methods which can be used to classify the quality of the cheese. In this final task, the author use Discrete Cosine Transform method with Decision Tree classification. Digital image is changed to the basic frequency component with Discrete Cosine Transform technique. This technique represents an image from the sum of sinusoidal from the changing magnitude and frequency. The character of DCT changes image information which is significantly concentrated on several DCT coefficients. The result of feature extraction is classified with Decision Tree technique, so the good quality of the cheese can be identified.

This examination was performed on 48 pictures of cheese, composed with 16 pictures for every class from the first until the third class with explanation of cheese are very eatable, eatable, not eatable. This examination obtained an accuracy of 89,583% with computing time of 0,02 second by using the first order parameter DCT method of Standard Deviation and Entropy.

Keyword : Cheese, Discrete Cosine Transform (DCT), Decision Tree, Digital Image.