

ABSTRACT

Cheddar Cheese is one of dairy product that produced with help of bacteria to be fermented. The results of the fermentation that is coagulation process that will produce milk solids. The milk solids will become cheddar cheese after being dried, processed and preserved in a certain way. Nutritional content in cheddar cheese is the same as milk, such as protein, vitamins, minerals, calcium, phosphorus and fat. Quality of good cheddar cheese can be seen from the texture. Viewed from the surface of the cheese whether there is mold or not. Determining the quality of good cheddar cheese texture in detail could be seen by using digital microscope with help from digital image processing. Using image processing can ease the determination and classification quality of cheddar cheese.

In this final task, the author has made an Android application to detection quality of cheddar cheese with digital image processing technique. The application can analyze the texture pattern of the image of cheddar cheese through feature extraction then classified to identify the quality of cheddar cheese based on worthiness criteria which is very worth eating, worth eating and not worth eating. Feature extraction method that used is Gray Level Co-Occurrence Matrix which able to analyze texture pattern in the image, whereas for the classification method using Support Vector Machine which is good in classifying the texture pattern of digital image.

*For testing, a few samples were taken by taking photos of cheddar cheese using a digital microscope. The number of testing data samples is 48, the number of training data is 24 and the number of class is 3 classes. The highest result of the research is 81.25 % of application accuracy rate and application computing time is 19.52 seconds on the testing with 350 * 450 pixel resize. The results of this test will make it easier to know the quality of cheddar cheese more effective*

Keywords: Gray Level Co-occurrence Matrix, Support Vector Machine, Cheddar Cheese.