

ABSTRACK

Chesee is a milk produced from the fermentation where the fermentation process can be carried out by lactic acid bacteria or fungi. Cheese become a food who has consumed by the Indondesian people as a complementary flavor on food. The cheese has a high enough protein until the cheese used as a complement to many processed foods, such as bread, pizza, and pasta. However, the cheese producted from each company has a different quality and texture. There is a number of Indonesian people who did not know that once the cheddar cheese is opened, there's a limit where the cheese is edible. Visibly, the quality of cheddar cheese that is no longer edible can not be seen. This problem became the background writer's final task. On the digital image processing system, any image can be analyzed and classified based on the features of the image of the object. To understand the quality of cheese can be done through observed image of cheese for 15 days.

In this Thesis the author discusses how to classify the type of quality of the cheese. There are several methods that can be used for the classification of the quality of the cheese. In this final task the author use Discrete Cosine Transform (DCT) feature extraction with K- Nearest Neighbor (K- NN) classification that begins with the process of pre-pocessing.

The testing is done with testing 48 image of cheese, with the composition of each class has 16 image of very edible cheese, 16 image of edible cheese, and 16 image of not edible cheese. From the testing, the author can obtain the best accuracy of 85.41% with computational time 0.6152 s using the DCT method which used feature extraction based on texture and color with one order of parameter (standard deviation and kurtosis), DCT 50 blocks, $k = 1$, and euclidean distance.

Keyword: *Chesee, Discrete Cosine Transform (DCT), K-Nearest Neighbor (K-NN)*