ABSTRACT

Black tea quality is determined from the appearance of color powder and liquor (appearance), taste of the liquor (inner quality), and the residue infusion (infusion). The first parameter used to assess was in term of appearance. But the problem was assessment of the appearance depends on the subject of a judge. Thus the need for computer vision-based system to assess objectively.

This final project through preprocessing which consist of morphological operations, cropping and normalization, and contrast enhancement. To got the feature, the system calculated the average color for each layer in RGB, HSV, and also YCbCr space and the area of color image than had been in-segment. This system using Artificial Neural Network Kohonen SOM (Self Organizing Maps) for classification process.

From the test results, it has gotten the accuracy rate of black tea classification based on acceptance standard was 97.78% for training data and 87.78% with computing time 8.025 seconds for test data.

Keyword : quality of black tea, computer vision, color segmentation, blob detection, artificial neural networks