ABSTRACT

Coffee is one of Indonesia's mainstay commodities and ranks third as a coffee exporting country after Brazil and Vietnam. Before being consumed, coffee beans go through a roasting process, roasting or roasting is the process of roasting coffee beans that are still raw (green bean) to a certain level of maturity. There are three types of roasted coffee beans, namely light roasts, medium roasts, and dark roasts. The three types of roasts will be difficult to distinguish from one another if you have no experience or have eye conditions that reduce performance.

Judging from this problem, a system is needed that can help humans determine whether the identified roasted coffee beans are included in the light roast, medium roast and dark roast. In this final project, the identification and classification of coffee beans can be made easier by using image processing. The method used is the Local Binary Pattern with the K-Nearest Neighbor classification. The result that will be obtained is an application based on MATLAB to identify and classify.

To shorten the process of identifying the quality of the beans, you can use digital image techniques by analyzing the color of the coffee beans after roasting. The training data used are 120 data with 40 data per class, and 90 test data with 30 data for the class. The highest system performance results obtained by the authors in this study were 91.11% with 512 image size, LBP radius = 2, euclidean or cityblock distance types, and k = 1 as parameters

Keywords*: cofee bean, roasted coffe beans, digital image, LBP, K-NN.*