ABSTRACT

Currently, there are many coffee drinkers and coffee shops, which has led to the growth of coffee roasteries. Usually, these coffee roasteries select roasted coffee beans manually, which often results in inconsistent outcomes.

Based on this, a system is needed to detect or classify the coffee beans in order to easily distinguish between good and defective roasted beans, resulting in more consistent outcomes. This research identifies the beans based on their color, shape, and texture. The system is based on digital images using the Convolutional Neural Network (CNN).

In the analysis that has been conducted, there are three scenarios used to evaluate the system's performance: resizing, adding hidden layers, and rotation. After performing these three scenarios, the best results from each were combined. The system achieved a performance accuracy of 99.7% on the training data. For the testing data, the accuracy obtained was 83.6%.

Keywords: roasted coffee beans, digital image, Convolutional Neural Network (CNN).