

# Implementasi Kualitas Biji Kopi Menggunakan Convolution Neural Network (CNN)

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## ABSTRACT

*In the millennial era, the coffee bean commodity demand continues to increase, both from within and outside the country. It is an excellent opportunity for coffee entrepreneurs. The obstacles faced by coffee bean consumers are the quality of coffee beans that are not feasible or defective. They can still be sold to several producers even though the quality standards of coffee beans have been set by the Indonesian National Standardization Agency (BSNI). Currently, the selection of quality coffee beans is still using traditional methods, so it takes time and effort to sort out quality coffee beans. The solution offered in this study is object detection of coffee bean quality. The detection is carried out using a machine learning system and a Convolution Neural Network (CNN) as an indicator for the classification of coffee bean quality. Moreover, the system can classify two varieties of coffee beans, namely standard coffee beans and defective coffee beans through a dataset training has been carried out. The system will predict the accuracy of the two coffee bean varieties. This study's results were classified as standard and defective coffee beans using a dataset obtained from a trained database. The evaluation of the object detection system results in this study obtained the accuracy of each object variety of 95.5% standard coffee beans and 94.5% defective coffee beans.*

**Keywords:** Coffee Beans, Object Detection, Convolution Neural Network