

ABSTRACT

Coffee production is predicted to increase by 5.8% in 2024. Coffee can be categorized into various quality levels based on detected defects. Quality checking of coffee is typically done through visual inspection, which is time-consuming and subjective. Other previous studies have implemented methods that only detect the presence of defects, or use texture for coffee quality assessment. This research uses a different approach, employing You Only Look Once version 8 (YOLOv8) to detect defects based on Specialty Coffee Association (SCA) standards. The compiled dataset consists of 204 images showing 300 grams of Arabica Mandheling green coffee beans. By using an approach where the model detects and classifies defects according to SCA standards, the model can provide more accurate results in detecting green coffee bean defects and simplify coffee quality inspection. The main contribution of this research is a model that can detect defective coffee beans based on SCA standards. The model created has a mean average precision of 0.14.

Keywords: *coffee beans, yolo, object detection, computer vision, coffee quality.*