ABSTRACT

In the logistics industry, measuring the dimensions and weight of packages is crucial for optimizing costs, storage space, and inventory management. Traditional measurement methods are often time-consuming and prone to human error. This research aims to use load cell sensors, ultrasonic sensors, webcams, and image processing techniques to automatically and in real-time measure the dimensions and weight of packages. The proposed solution includes using a 50kg half-bridge load cell sensor with an HX711 to measure weight, an HC-SR04 ultrasonic sensor to measure distance using an Arduino Uno, and image processing with OpenCV to analyze the package's visual characteristics. The system was tested with various objects to assess its accuracy, achieving a success rate of 92.45% in measuring the dimensions, volume, and weight of packages.

Keywords: load cell, ultrasoni, openCV, logistics, arduino