ABSTRACT

Sorting machine is a tool used for sorting a product in an industry. In the industrial field, an automatic, fast, and high precision sorting machine is vital in the distribution of products. This final research project aims at designing a fast and high precision sorting machine to boost the result. This research designed an automatic image-based sorting machine with camera to improve the effectiveness of the distribution of products.

A camera was installed on the top of the conveyor. Therefore, when the camera detects a products, at the same time, the scanning process creates a color-based image processing method using OpenCV, therefore single board computer (SBC), as the controller, verifies this input based on database. As soon as the data has been authenticated, a DC motor in the conveyor will pull the product out.

The result of image processing-based sorting machine in the conveyor has generated a more accurate data since the authentication process is monitored by a camera. This accurate output is expected to improve effectiveness, monitoring, and profit of the company and to assist human work.

Keywords: OpenCV, Raspberry Pi, Conveyor, Image Processing