

ABSTRAK

Pada layanan jasa proses pengiriman barang terdapat proses penyortiran yang dilakukan sebelum dikirimkan kepada pembeli yang dilakukan secara manual oleh kurir berdasarkan region alamat yang dituju. Pada proses sortir rentan terjadi kesalahan yang diakibatkan oleh *human error*, seperti kesalahan pembacaan kode. Penelitian ini bertujuan mengimplementasikan metode *You Only Look Once* (YOLO) pada alat sortir barang otomatis dengan konveyor. Alat dirancang menggunakan *belt conveyor* yang memindahkan *box* barang ke dalam tas tempat hasil sortir. Awal mulanya *box* barang diletakkan pada ujung awal konveyor. Kemudian *box* akan berjalan dan inframerah mendeteksi objek, konveyor berhenti dan kamera mengambil gambar resi yang nantinya digunakan menyortir barang. Setelah proses pengambilan gambar, konveyor berjalan kembali kemudian terdapat pemisah yang digerakkan motor *servo* yang melakukan sortir agar *box* masuk sesuai tempat alamat dituju. Sensor yang digunakan adalah sensor inframerah dan kamera. Hasil pengujian menunjukkan sistem deteksi angka memiliki kinerja yang baik, dengan akurasi total 92% dari total 75 percobaan dan mengalami 6 kegagalan. Pada uji coba seluruh sistem alat sortir, akurasi total sistem mencapai 80% dari 30 percobaan.

Kata kunci : sortir, YOLO, nomor resi, konveyor, kamera

ABSTRACT

In the delivery service of the goods delivery process, there is a sorting process that is carried out before being sent to the buyer which is done manually by the courier based on the destination address region. The sorting process is prone to errors caused by human error, such as code reading errors. This research aims to implement the You Only Look Once (YOLO) method on automatic goods sorting tools with conveyors. The tool is designed using a belt conveyor that moves the box of goods into the bag where the results are sorted. Initially, the freight box was placed at the initial end of the conveyor. Then the box will run and infrared detects the object, the conveyor stops and the camera takes a picture of the receipt which will later be used to sort the goods. After the shooting process, the conveyor runs again then there is a separator driven by a servo motor that sorts so that the box enters according to the address to be addressed. The sensors used are infrared sensors and cameras. The test results showed that the number detection system performed well, with a total accuracy of 92% out of a total of 75 attempts and 6 failures. In the whole system test of the sorting tool, the total accuracy of the system reached 80% from 30 attempts.

Keywords: sort, YOLO, receipt number, conveyor, camera