Robotic Sorter
Intelligent Systems

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Abstract

A scaled prototype was created to automate the waste separation process, in two categories, metals and non-metals (plastics, paper, cardboard, glass, etc.) The waste separation was carried out by means of a conveyor belt and an articulated robotic arm.

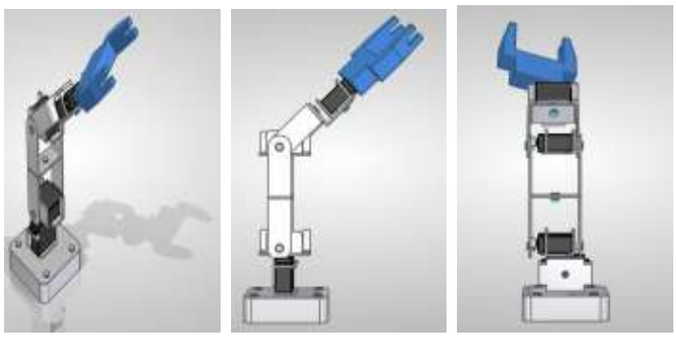

Figure 1

Introduction

Based on the way in which progress is being made with the recovery of waste to help the environment, the robotic arm was created to contribute to the work of the personnel in charge of sorting in messy and unpredictable environments.

Figure 2

Materials and methods

Figure 3

Results

A versatile and usable code was implemented for any industrial application where the use of an articulated robotic arm is required.

Figure 4

Increases performance and productivity in collaboration with the staff in various activities that can be performed in a company of this nature.

Conclusions

The design presented was made to scale, for didactic purposes, but with the same applications as an industrial grade articulated robotic arm since, having sensors, actuators, microcontrollers and a programming language, the process is automatic and can facilitate various activities.

Figure 5

Future of research

Implement the developed code along with the designs and features of the articulated robotic arm in an industrial grade production line. Perform the implementation of an HMI interface for remote monitoring and control of our articulated robotic arm in a production line.

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