

Product based Color Sorting Machine using Arduino

Aditi Tiwari¹, Avanti Ghogare², Sakshi Jirapure³, Sakshi Thote⁴, Sharda Ukhadkar⁵
Department of Electronic & Telecommunication Engineering^{1,2,3,4,5}

P. R. Pote (Patil) Collage of Engineering and Management, Amravati, Maharashtra, India
Sant Gadge Baba Amravati University, Amravati, Maharashtra, India

Abstract: *Sorting of objects is an essential mechanical process in which difficult work is quite required. Chronic manual arranging makes consistency troubles. In this digital world, colour processing in different industries gives us more leverage to solve the consistency problem of continuous manual sorting. This project introduces a sophisticated colour sorting system, named the "Product-Based Colour Sorting Machine," designed to efficiently categories objects based on their colours. Leveraging the power of Arduino technology and precision control through servo motors, our system offers a reliable and cost-effective solution for diverse applications. Our project presents an Arduino-based colour sorting machine that efficiently categorizes objects by their colours. Utilizing IR sensor for reliable object detection, ensuring robust sorting accuracy across varying environmental conditions and advanced colour sensor technology and precise servo motor control, this system ensures efficient and accurate categorization of objects by their colours. With SG90 Servo motors managing both channel guide rotation and object halting, the machine eliminates the challenges of manual sorting, offering a reliable, cost-effective, and highly adaptable solution for industries.*

Keywords: Color sorting, Conveyor belt, DC motor, PIC 16F628A, TCS230 color sensor.

REFERENCES

- [1] Bankole I. Oladapo, V.A. Balogun, A.O.M. Adeoye, C.O. Ijagbemi, Afolabi S. Oluwole, I.A. Daniyan, A. Esoo Aghor, Asanta P. Simeon, "Model design and simulation of automatic sorting machine using proximity sensor", Engineering Science and Technology, an International Journal 19 (1452–1456), 2021.
- [2] D. A. Wahab, A. Hussain, E. Scavino, M.M. Mustafa and H. Basri, "Development of a Prototype Automated Sorting System for Plastic Recycling", American Journal of Applied Sciences 3 (7): 1924-1928, ISSN 1546-9239.
- [3] Pallavi P. Saraikar and Prof. K.S. Ingle, "OpenCV based Object tracking Robot using Image processing with Raspberry Pi", International Research Journal of Engineering and Technology (IRJET), e-ISSN: 2395- 0056, p-ISSN: 2395-0072, Volume: 06 Issue: 01, January 2019.
- [4] Artzai Picón, Ovidiu Ghita, Aranzazu Bereciartua Jone Echazarra, Paul F. Whelan and Pedro M. Iriondo, "Realtime hyperspectral processing for automatic nonferrous material sorting", Journal of Electronic Imaging (JEI), ISSN: 1017-9909 (print), Jan–Mar 2020.
- [5] Mr. Pratik Bapuso Patil, Mr. S.S.Patil, Mr. M.L.Harugade, "Review on Colored Object Sorting System Using Arduino UNO", International Research Journal of Engineering and Technology (IRJET), Volume 06, Issue 05, May 2019..