

Hand Gesture Control Robot

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Abstract: *In recent years, there has been a growing interest in developing human-machine interfaces that allow users to interact with robots in a more intuitive and natural way. Hand gesture control has emerged as a promising modality for such interfaces, offering a hands-free and immersive interaction experience. This paper presents the design, development, and evaluation of a hand gesture-controlled robot system. The proposed system utilizes computer vision techniques and machine learning algorithms to recognize and interpret hand gestures, enabling users to control the robot's movements and actions seamlessly. The robot is equipped with sensors and actuators, allowing it to respond to the detected gestures in real-time. The goal is to create a user-friendly and efficient interface that enhances the ease of interaction between humans and robots. The findings pave the way for the development of more sophisticated and user-friendly robotic interfaces, fostering the integration of robots into daily human activities. The proposed system's adaptability and versatility make it a promising candidate for further exploration and deployment in real-world scenarios, marking a significant step towards the advancement of gesture-based control in robotics.*

Keywords: Hand Gesture, Controller, Robot Car, Arduino, Gyro Sensor, Bluetooth, Accelerometer, Motor driver, Arduino uno, Arduino nano, power supply, Arduino IDE, framework embedded programming language-C.

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