Gesture Controlled Car

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Objective

- The Objective of Gesture Controlled Car is to create a car that can be controlled through hand gestures using arduino microcontroller board and OpenCV.
- The user can use hand gestures to move car forward , backward , left and right.
- This project aims to provide an alternative and a fun way to control a car or robot , without the use of traditional remote control.
- It can used as a learning project to understand the basics of arduino programming and electrical components as well as demonstration of how gesture recognition can be used in real world applications.

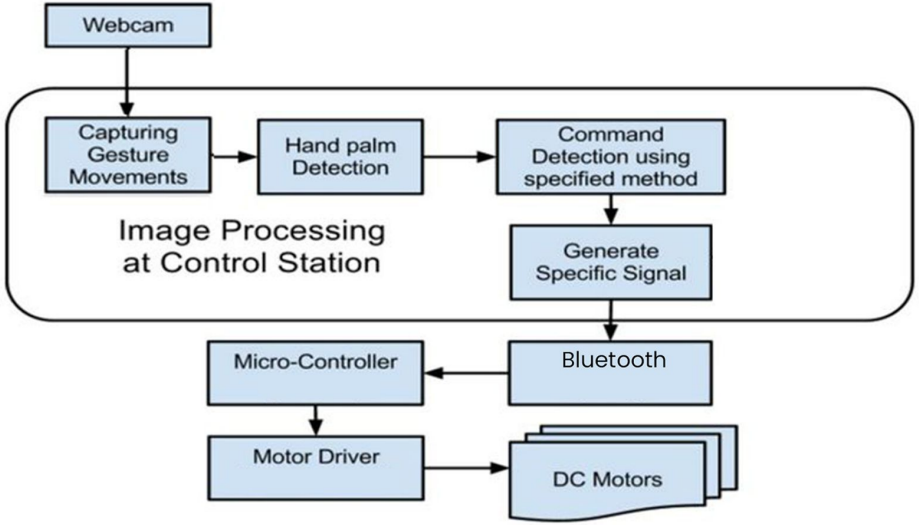
Motivation

Developing a gesture recognition system for a car which can improve accessibility , enhance safety, provide an intuitive user interface , and contribute to advancements in computer vision , machine learning and robotics.

Hardware Components used

- Arduino Uno
- Motor Driver
- Bluetooth Module HC-05
- Bo Motors
- Car Model
- Connecting Wires

Workflow Diagram



Working Demo Is Given In video Attached

Applications

- Educational and Entertainment - To understand basic arduino programming and electric components as well as demonstration of hand gestures in real world applications.
- This car by used by people with disabilities who have difficulty using traditional remote controls.
- Surveillance and security - A gesture controlled car equipped with camera and can used for security purposes where access is difficult for humans.
- Industrial Automation - It can be used in industrial automation processes to move objects or do difficult tasks.
- Agriculture and farming - These type of cars can be used in agriculture activities like soil sampling , crop monitoring and irrigation.
- Research and Development - Gesture controlled car can be used in research and development of new algorithms and technologies in field of robotics and machine learning.

THANK YOU