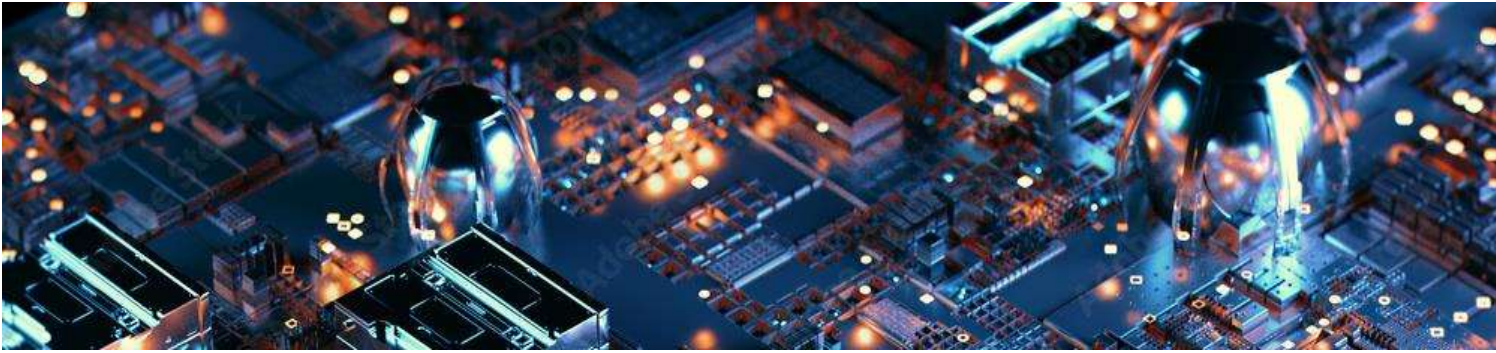


Undergraduate Research Project Proposal

Hand Gesture Controlled Robot



A hand Gesture Controlled robot is a robot which can be controlled by your hand motions. This technology enables humans to interact with robots in a more intuitive and natural way, without the need for physical controllers or remote devices. Hand gesture robots have various applications in automation, entertainment, healthcare, and much more.

Project Focus: In this project, we will need to have a small transmitting device in our hand, which includes an accelerometer to transmit an appropriate command to the robot so that it can do whatever we want.

Method: We will be developing a hand gesture-controlled system on a small robotic platform using an ESP32 microcontroller, which involves several steps, including setting up the hardware, programming the ESP32, and designing the hand gesture recognition system.

Goals: The goal of developing such a robot is to create a more intuitive and natural way of interacting with and controlling robots, particularly in scenarios where traditional remote controls or programming interfaces may be less practical or efficient. Moreover, developing hand gesture control systems for robots can be an emerging research area, driving innovation in human-robot interaction and control algorithms.

Special requirements: Arduino programming and circuit designing on breadboard/PCB. No ethical approval is required.

2 – 4 hours per week

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