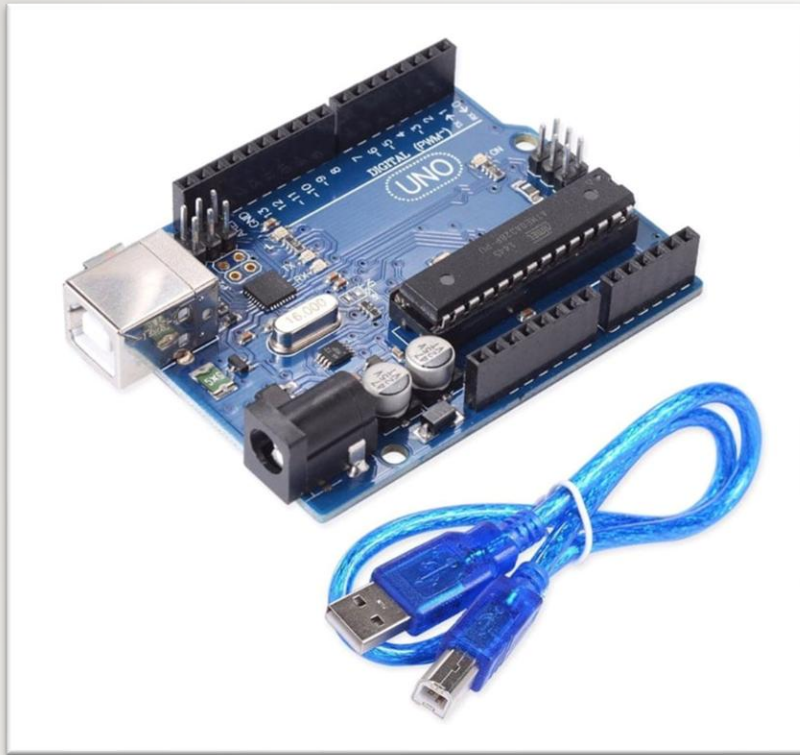


SURVILLANCE ROBOT

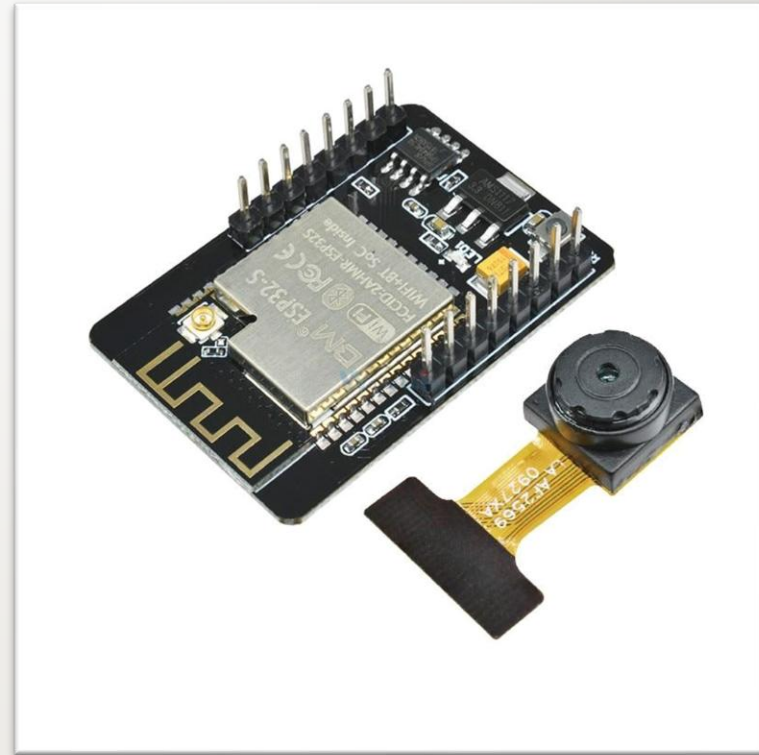


COMPONENTS

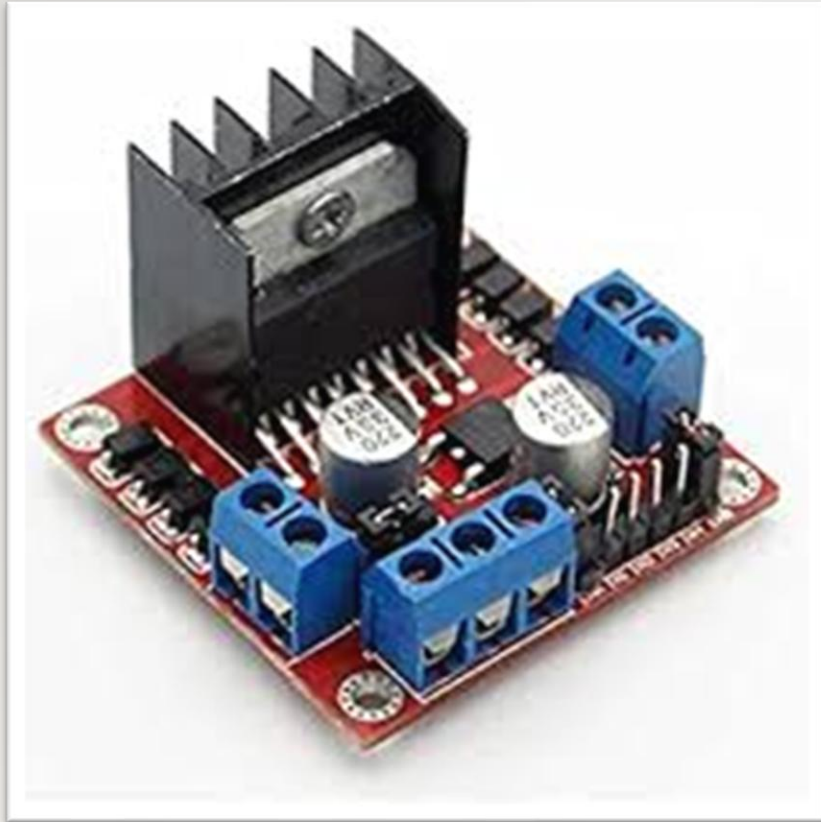
- Arduino Uno



- esp32 cam module



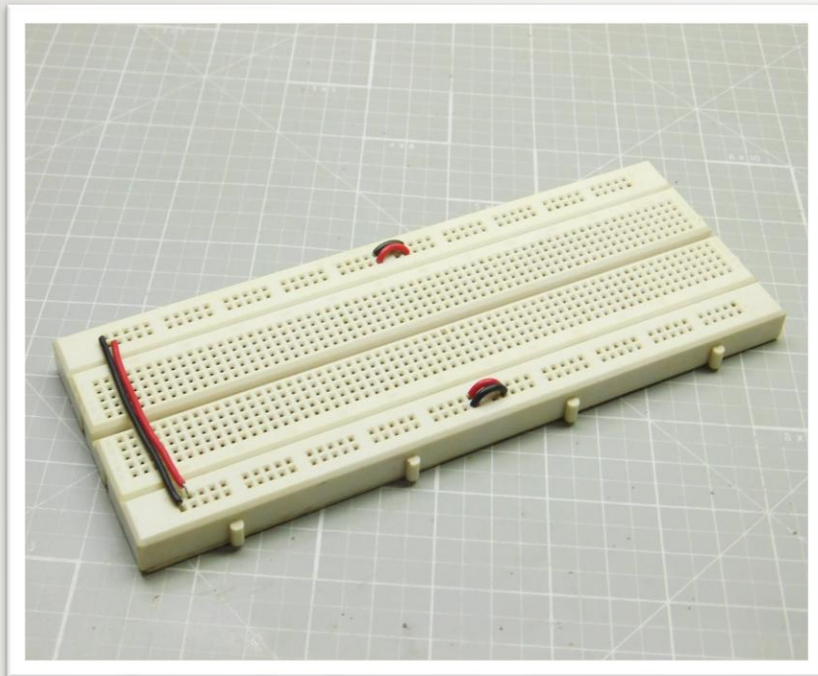
- L298n motor driver



- 7-12v DC battery



- bread board



- 4wd car kit



PLAN OF ACTION

- Install the Arduino OS into the SD card and boot the Arduino.
- Connect the Arduino to a Wi-Fi network and check for the IP address of pi.
- Connect the pi camera and enable the camera option in the settings.
- Write a python program to capture images, view live streaming, and also record the video from your smartphone.
- In order to view the live streaming of the camera you need to do port forwarding of your network.
- Use app inventor and create an android app that helps you to control the robot and also to view live streaming, capture image, and record remotely.

WORKING

- This Surveillance robot can navigate to dangerous and suspicious places and transmit live video footage.
- We can control the robot's movement wirelessly from any location by just pressing keys on mobile.
- When we press a key on the mobile, the robot receives signals from the mobile.
- Raspberry pi receives that signal through Wi-Fi and controls and adjusts the motors of the wheels so that the robot can move in the desired direction.
- The camera live telecasts the footage and transmits it to the mobile.
- Then we can watch the live footage of any place on the mobile through the Surveillance robot.

CODE:

```
#include "esp_camera.h"
#include <Arduino.h>
#include <WiFi.h>
#include <AsyncTCP.h>
#include <ESPAsyncWebServer.h>
#include <iostream>
#include <sstream>
struct MOTOR_PINS{
    int pinEn;
    int pinIN1; int pinIN2;  };
std::vector<MOTOR_PINS> motorPins = {
    {12, 13, 15}, //RIGHT_MOTOR Pins (EnA, IN1, IN2)
    {12, 14, 2}, //LEFT_MOTOR Pins (EnB, IN3, IN4)};
```

...