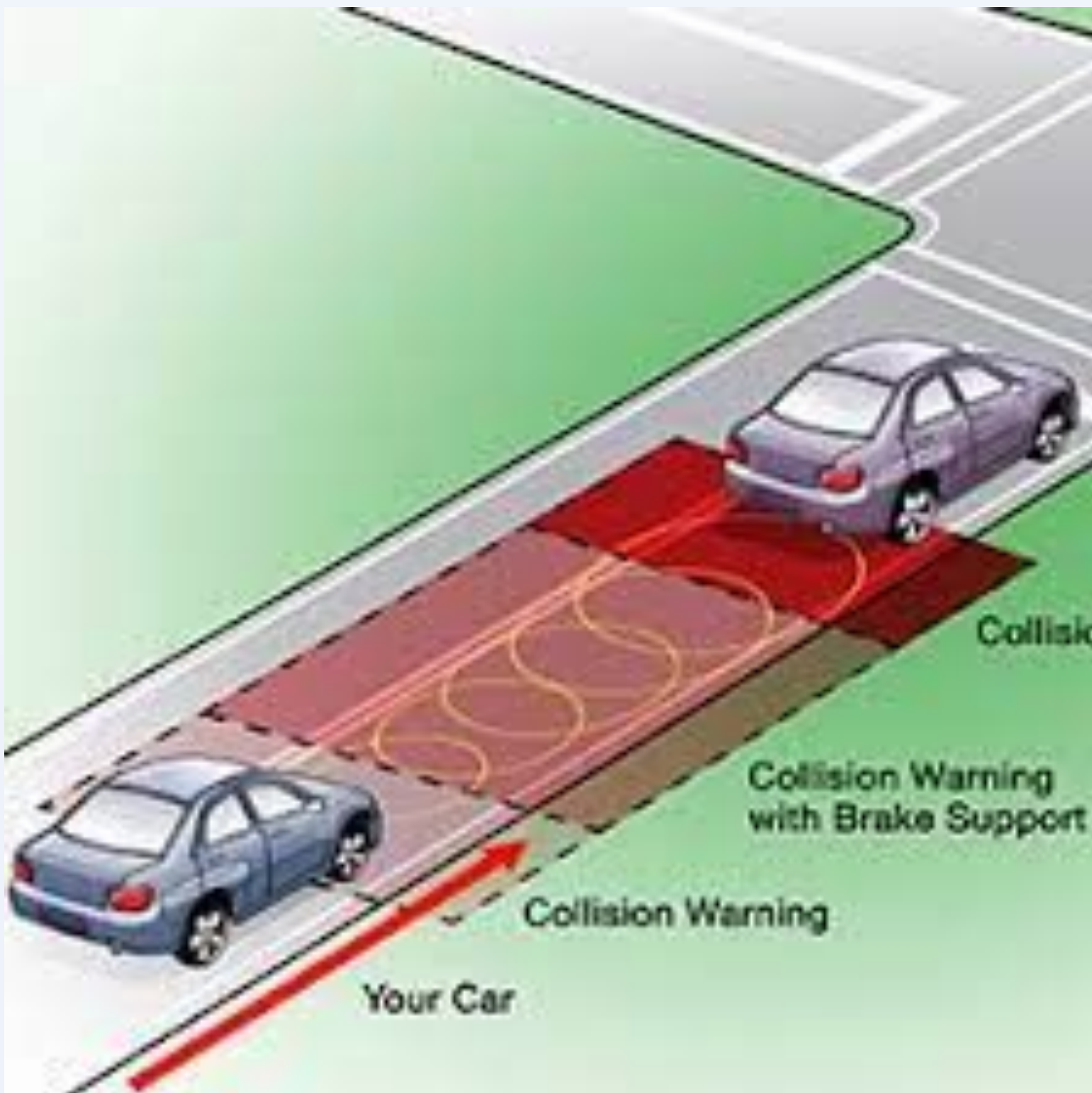# RC Car

By Grady Thorne and Michael Webb

Our Project

We built a Remote Controlled Car. It uses Wifi and the Blynk app to remotely control the car. It has a built in failsafe to detect distance and stop the car.

Objectives

Our objective was to create a remote controlled car that could stop a collision by sensing distance and stopping the car.
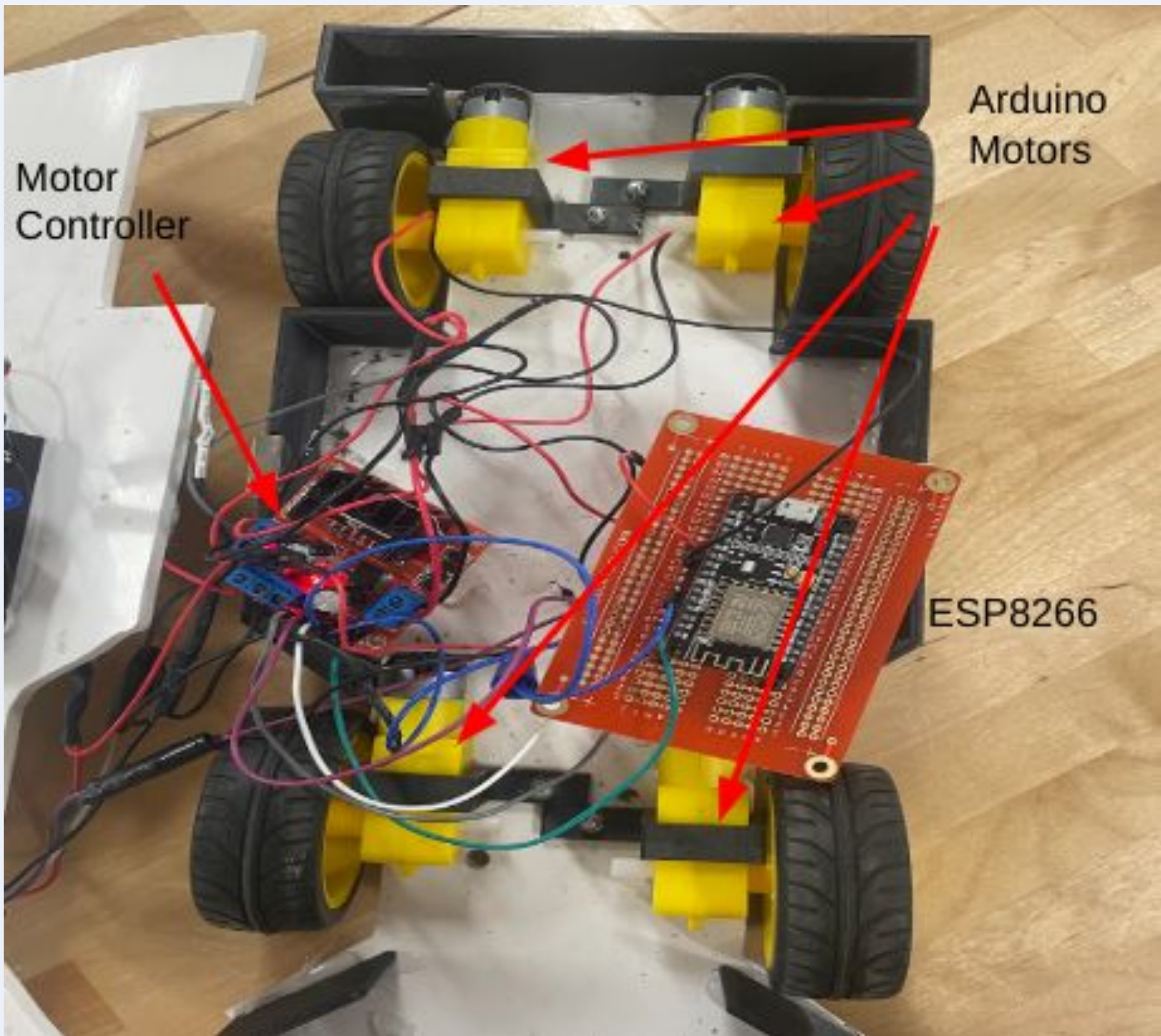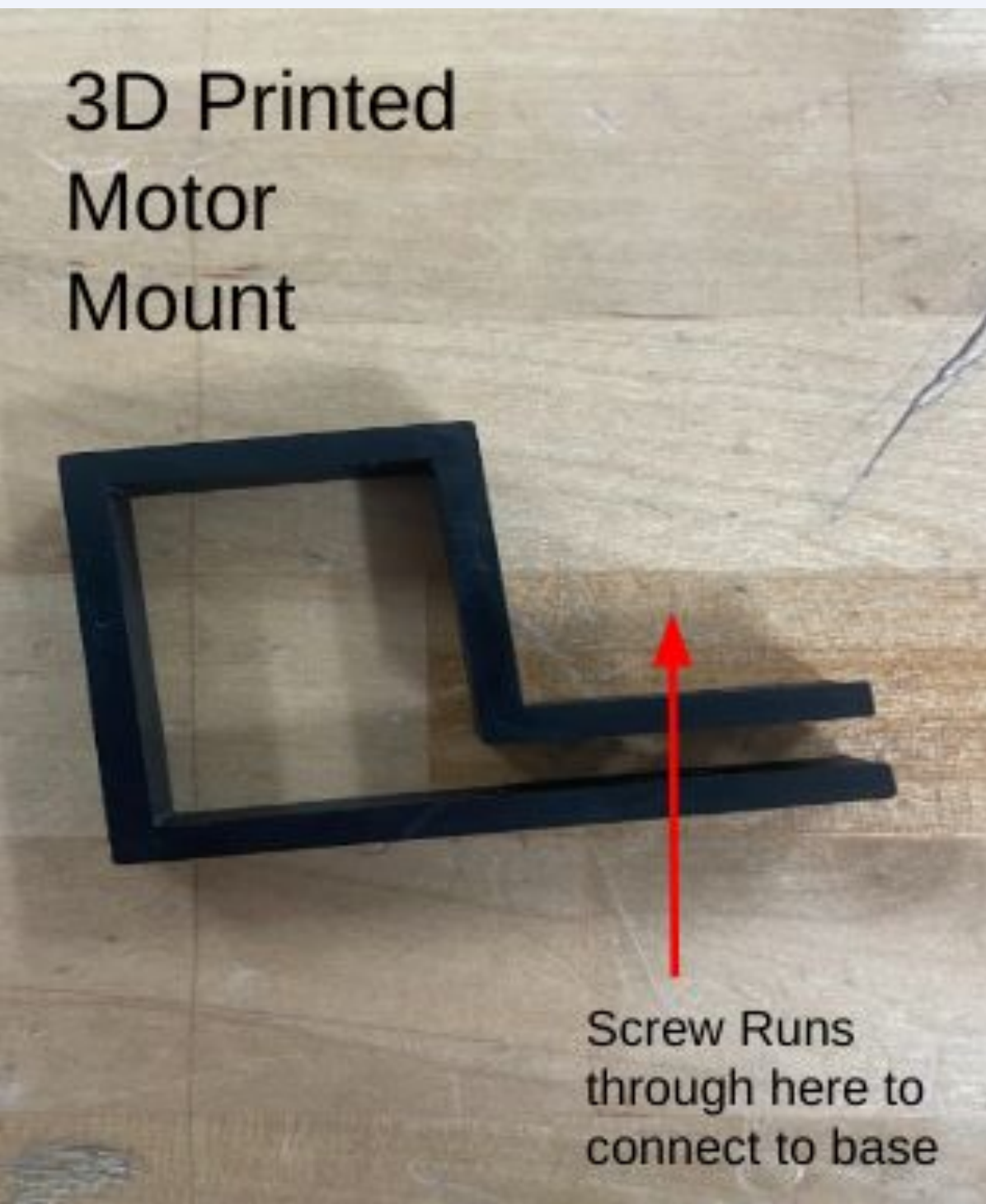

Materials

Materials
Esp8266: $8
I298n: $5
Four Arduino Motors and Wheels: $15
Distance Sensor: $3
PVC Pipe: $3
2 Battery Packs: $8
9 Batteries: $9
Bread Board: $7
Power Switch: $2
2 Magnets: $2
Total: $62

3D Prints
Walls: 73.1g
4 Motor Mounts: 20g
Sensor Mount: 10g
Total: 103.1g

3D Printed Motor Mount

Screw Runs through here to connect to base

Motor Controller

Arduino Motors

ESP8266

Results

Our final project was a RC Car controlled by an ESP8266. It moves four motors using a motor controller. We have two pieces of PVC pipe with most of the components in between them. We have pur battery pack and distance sensor on top of the car along with our power switch. We 3D printed walls for the car to put between the PVC. We also printed four motor mounts and a mount for the distance sensor.

```
void loop() {
    directionControl();
    delay(1000);
    // Clears the trigPin
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  // Sets the trigPin on HIGH state for 10 micro
seconds
   digitalWrite(trigPin, HIGH);
   delayMicroseconds(10);
   digitalWrite(trigPin, LOW);
   // Reads the echoPin, returns the sound wave
travel time in microseconds
   duration = pulseIn(echoPin, HIGH);
   // Calculating the distance
   distance = duration * 0.034 / 2;
```


Power Switch

Power Supply

Distance Sensor
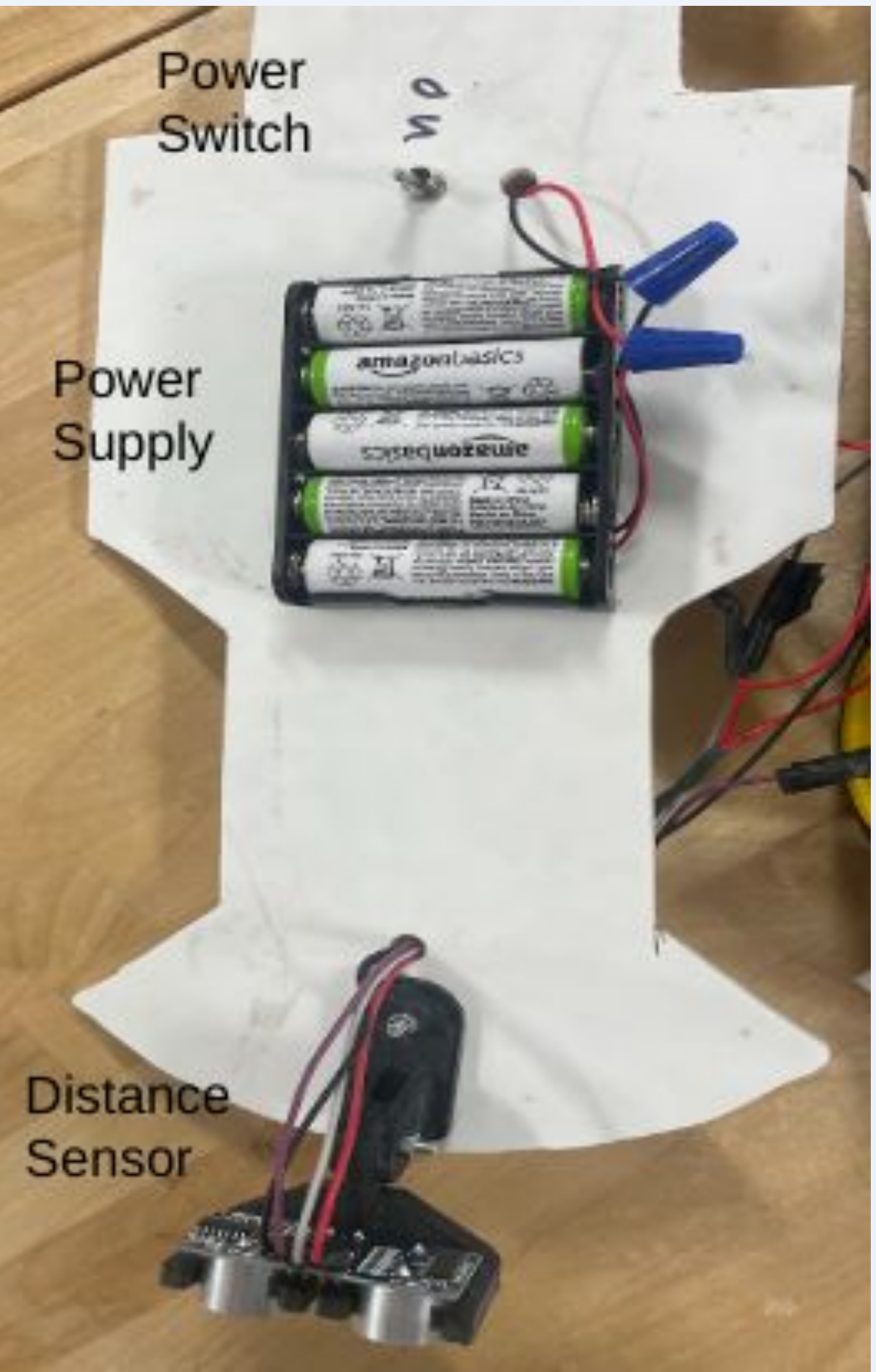
Problems and Challenges

One problem we had was building a base plate. We decided to use PVC Pipe. We cut a 15 inch piece of 2in pipe. We cut a line down the middle of the pipe then used a heat gun to bend it and flatten it into a plate. We then used a Jigsaw to cut out the shape we wanted. Another big problem we had was our distance sensor not working. The code gave us several problems such as the sensor not stopping the car from hitting objects. It also was overriding the drive controls and making the car lurch forward.