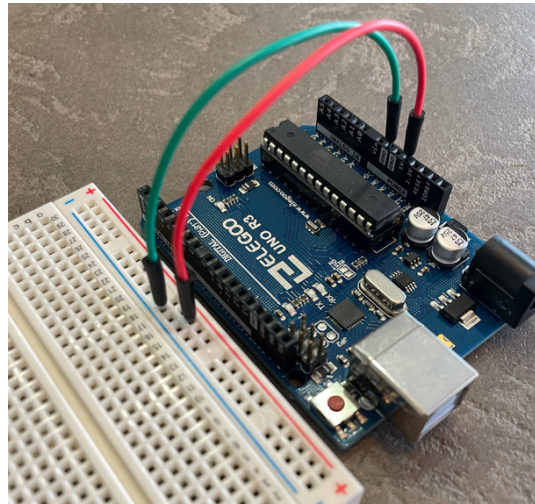


# GUIDE

Welcome to do final guide about how to build this trick or treat pumpkin. Here you have all the procediments step by step so you can build one for your own. We are going to start with the electronics.

# 1

First of all, you have to pick the arduino UNO and the protoboard and connect them (you will have to connect many things in the protoboard)

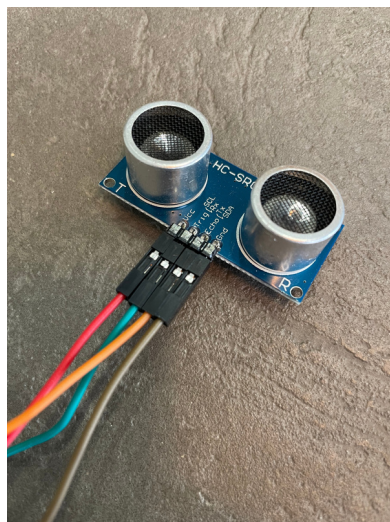


# 2

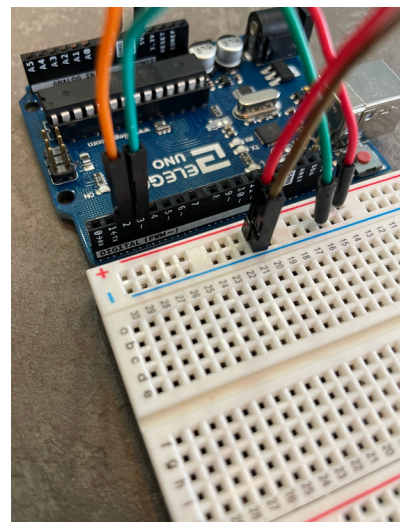
The following step is to connect the servo and the HC-SR04 sensor to their corresponding pins and then connect them to the protoboard.



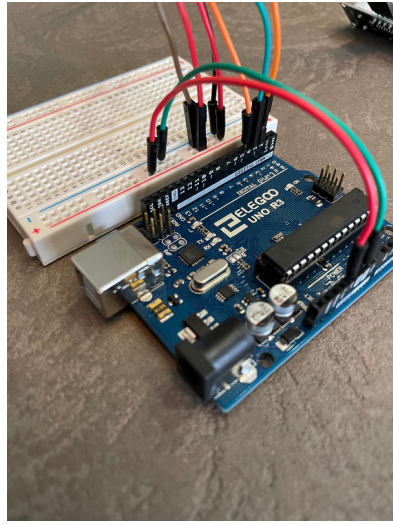
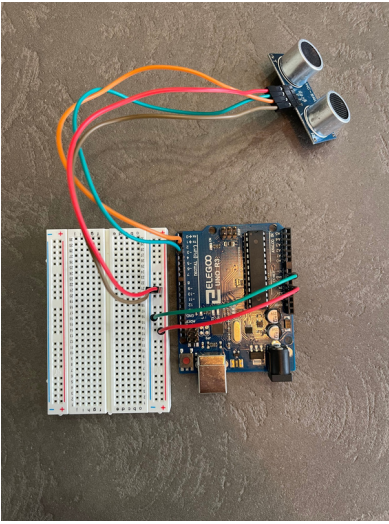
servo pins



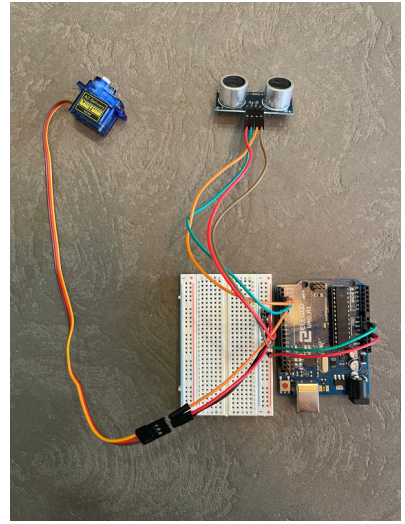
HC-SR04 sensor pins



sensor connection



Servo connection



All wired

# 3

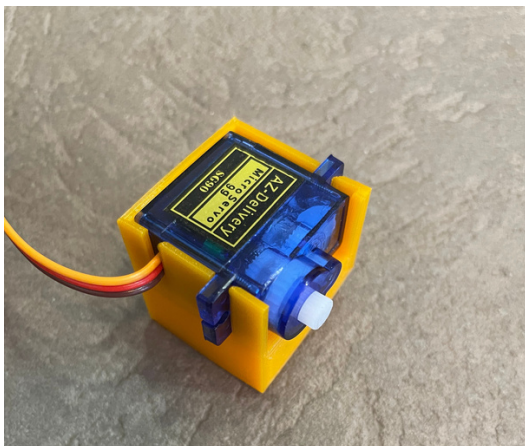
Once you have the second step done, you will take battery cable and the arduino-battery connection and weld the cables



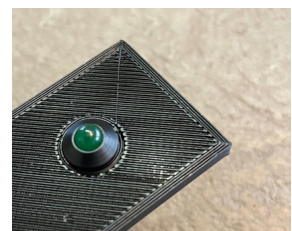
Battery cable

# 4

The fourth step is to put the servo in the support that we've printed before and screw the led holders as follows. (you can test to fit the LED to see if it works)



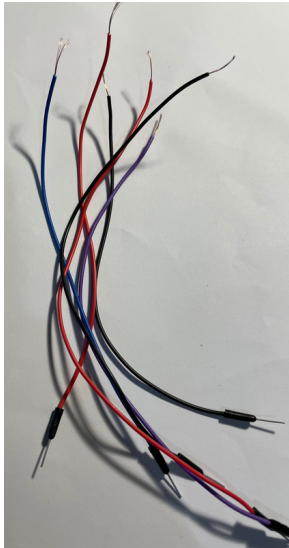
Servo support



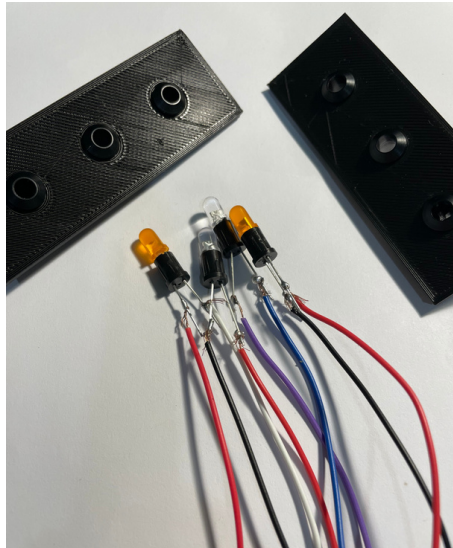
LED holders

# 5

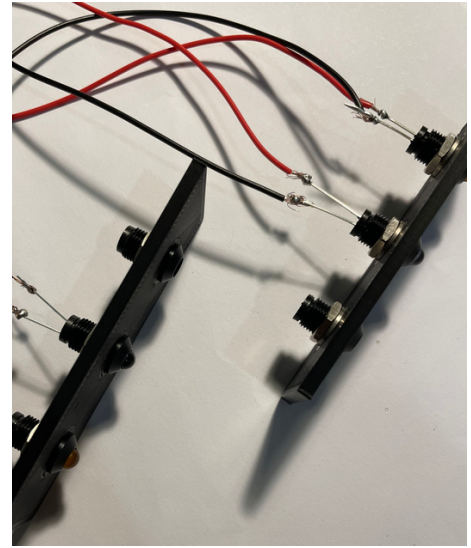
Now its time to put the LED in the LED holders. You have to prepare the cables, weld them in the LED's and introduce the LED's to the holders.



Prepare the cables



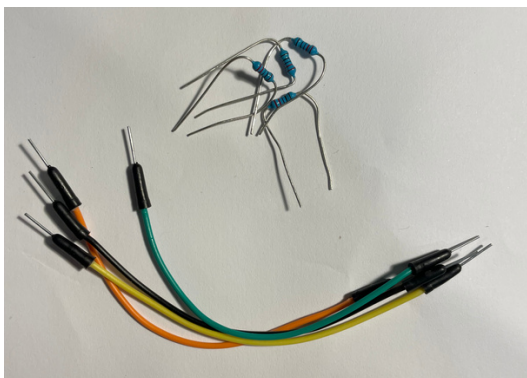
Weld them



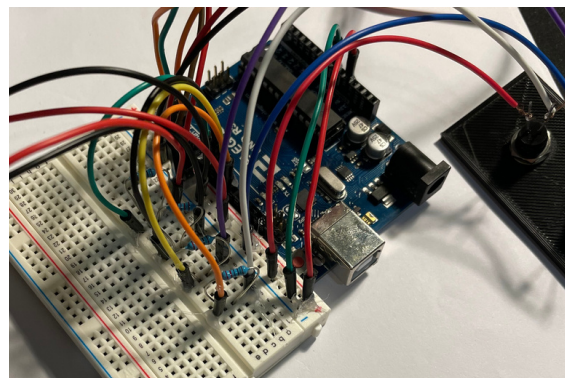
Put the LED's into the holders

# 6

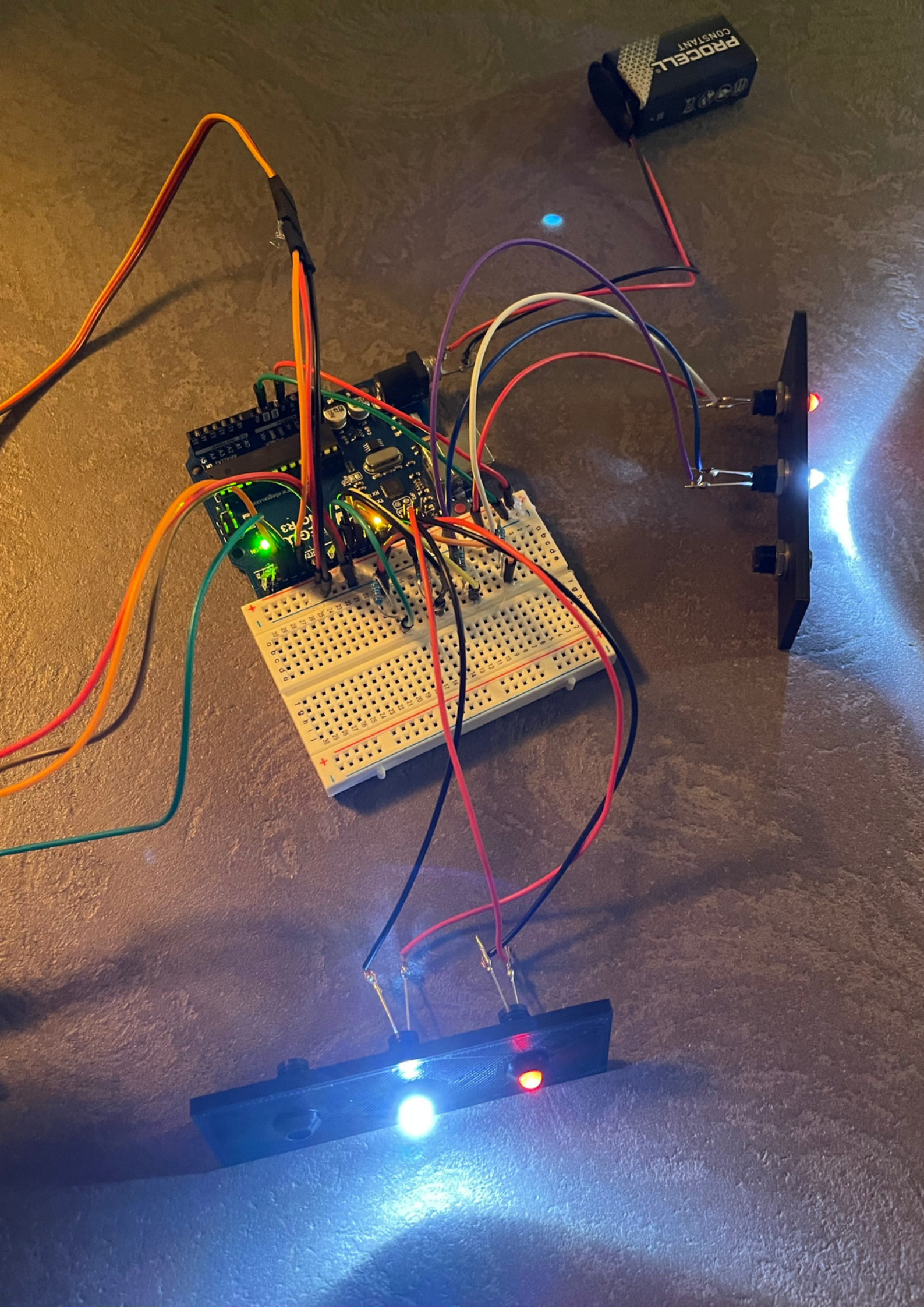
Up next, you will take the resistors and 4 jumpers to wire all the system to the arduino and the protoboard. Once you've connected all, if you try the code that we have provided you with, it should look like this (we've only put 2 leds because we tought the ilumination was enough)



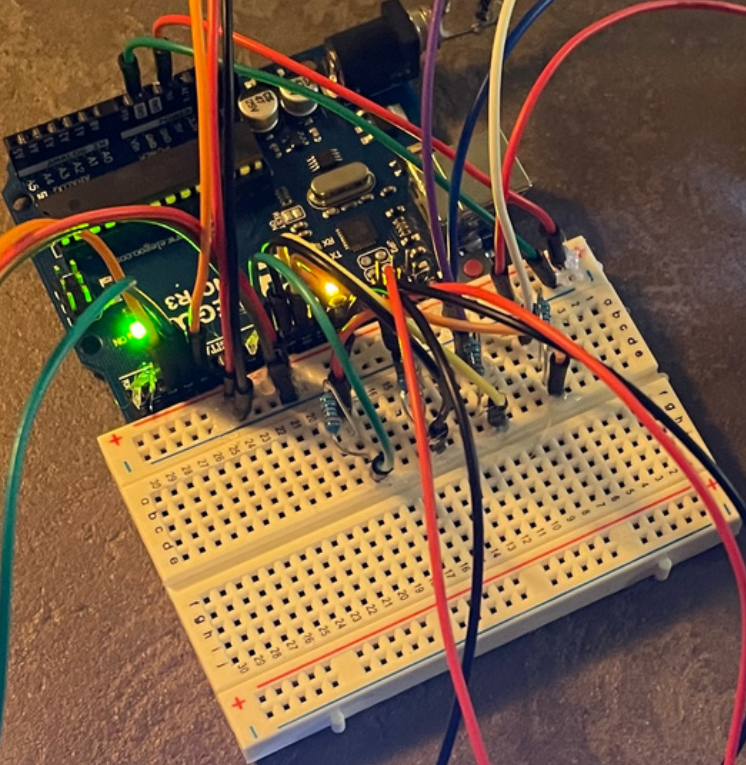
jumpers and resistors



prottoboard and arduino wiring



PROCELL  
CONSTANT



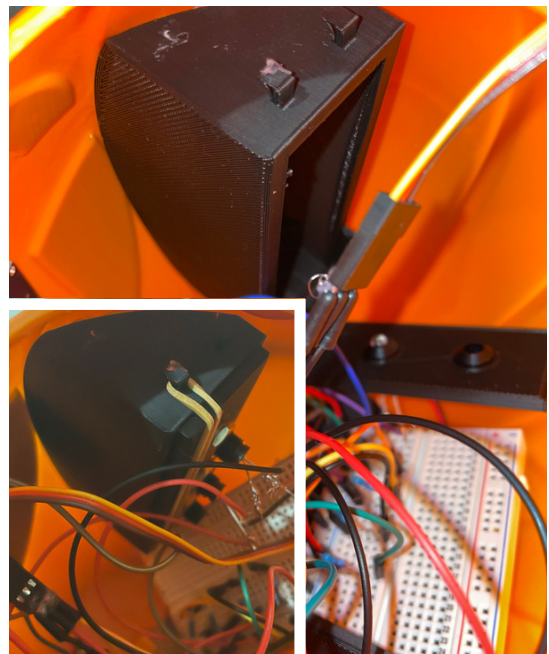
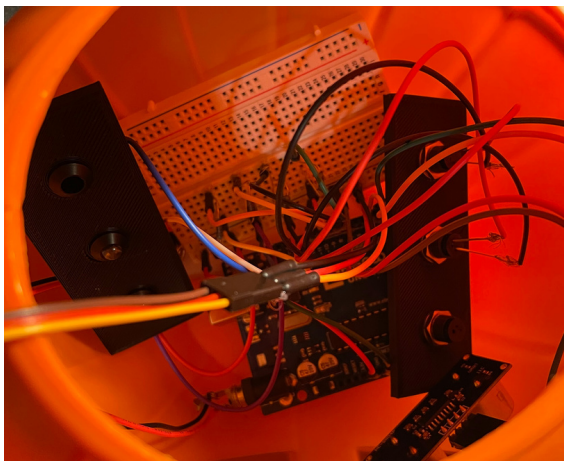
# 7

Now we are going to start working on the physical part, the pumpkin. Take the pumpkin and glue the two lighting boxes inside it with the silicone gun (each one on its corresponding side).



3d printed lighting boxes

Introduce also all the installation previously made inside the pumpkin and fix the lighting boxes with the elastic rubbers.



# 8

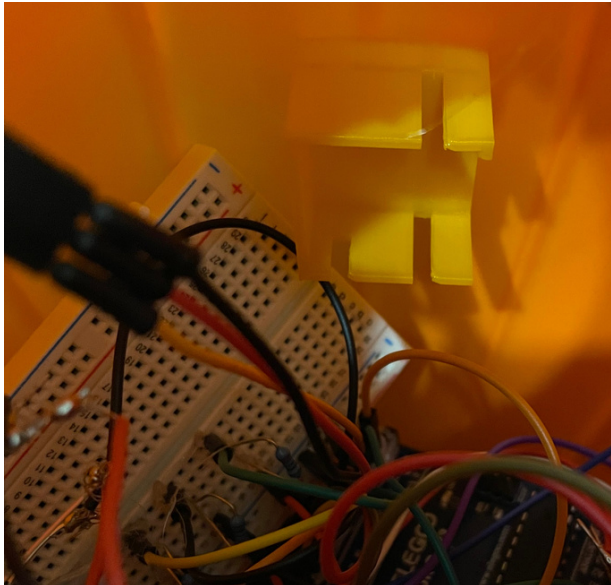
the eighth step consists of making two holes (as you can see in the picture) of the size of the sensor in the center of the pumpkin (you can use a light to mark the holes and then make them).



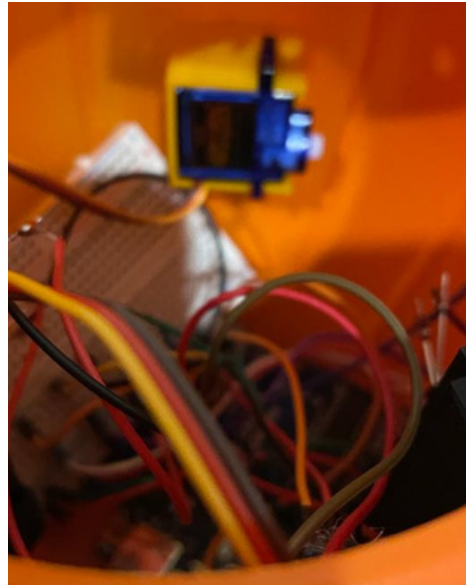
HC-SR04 sensor

# 9

Now coming to the last steps, we take the silicone gun to glue the servo support inside the pumpkin. We will also put the servo

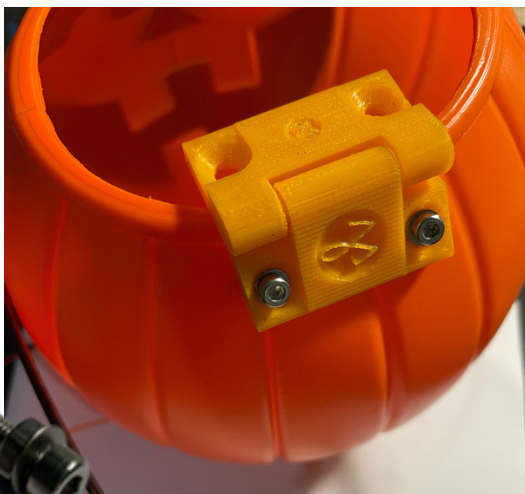


servo support



# 10

We now take the hinge that we also printed and the M3 screws to join the cover to the base

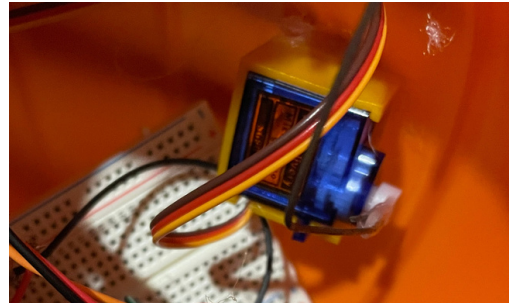


hinge



# 11

The penultimate step is to glue the steel wire to the servo by inserting it into the same holes of the servo arm and then bending it over the servo arm.



# 12

We finish with this poster to wish you a happy halloween! We hope you liked it and above all that you can make it yourselves.

PD: you can also add some decoration to the pumpkin as we did. HAPPY HALLOWEEN! :)



