

## **Warning: Read First!**

**Do not power the ESP32 with both USB and 5V pin! This is dangerous.**

Use only one power source at a time either:

- USB
- Injecting 5V-12V into the 5V pin from battery pack

But not at the same time!

**Do not connect a load (i.e., external circuit) that demands more than 40mA (milli amps).** Hence, we don't ever connect GPIO pins directly to any DC motors.

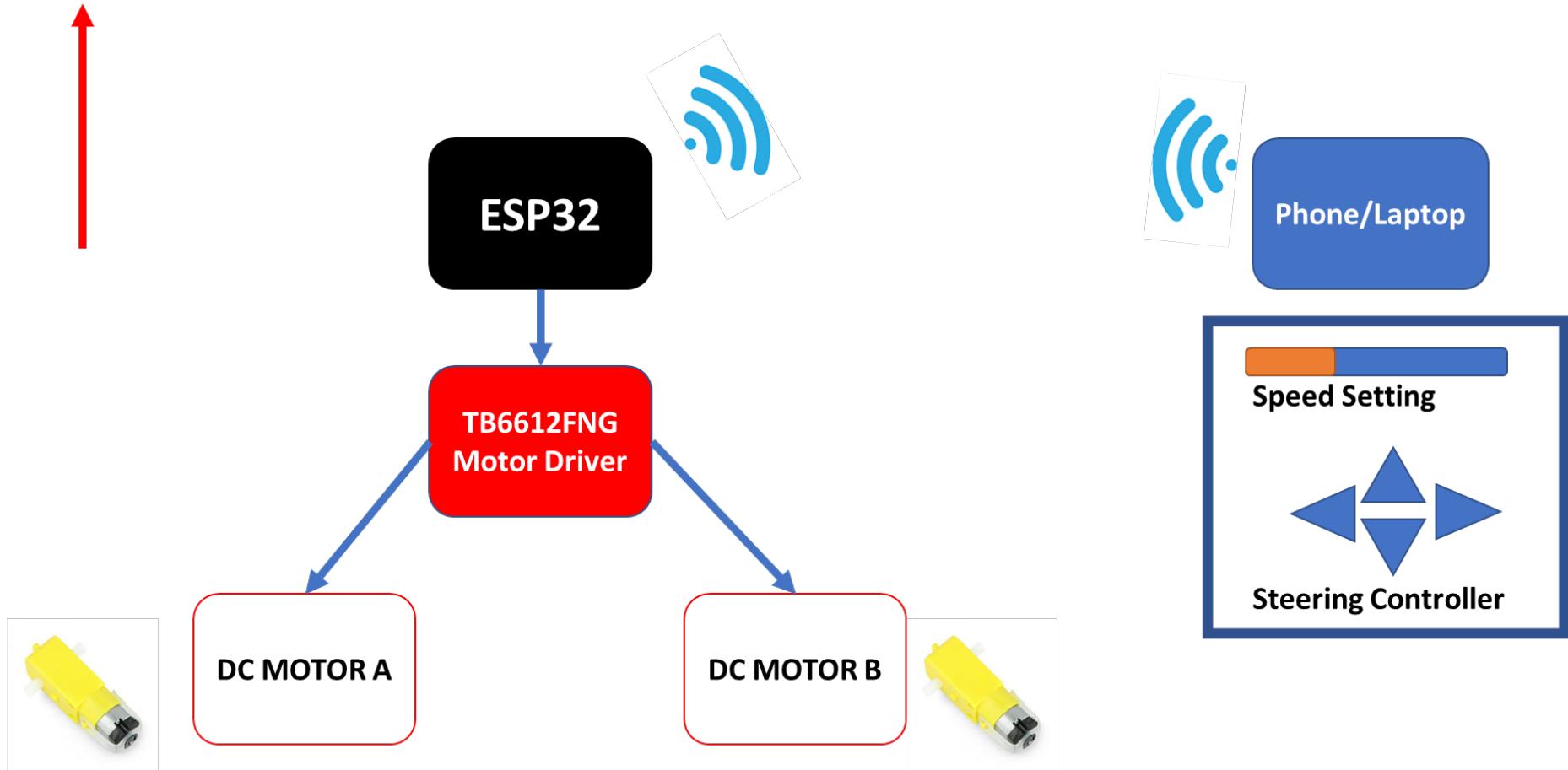
**Do not input a voltage higher than 3.3V into the GPIO pins.** One should always reduce the voltage to about 3V or less.

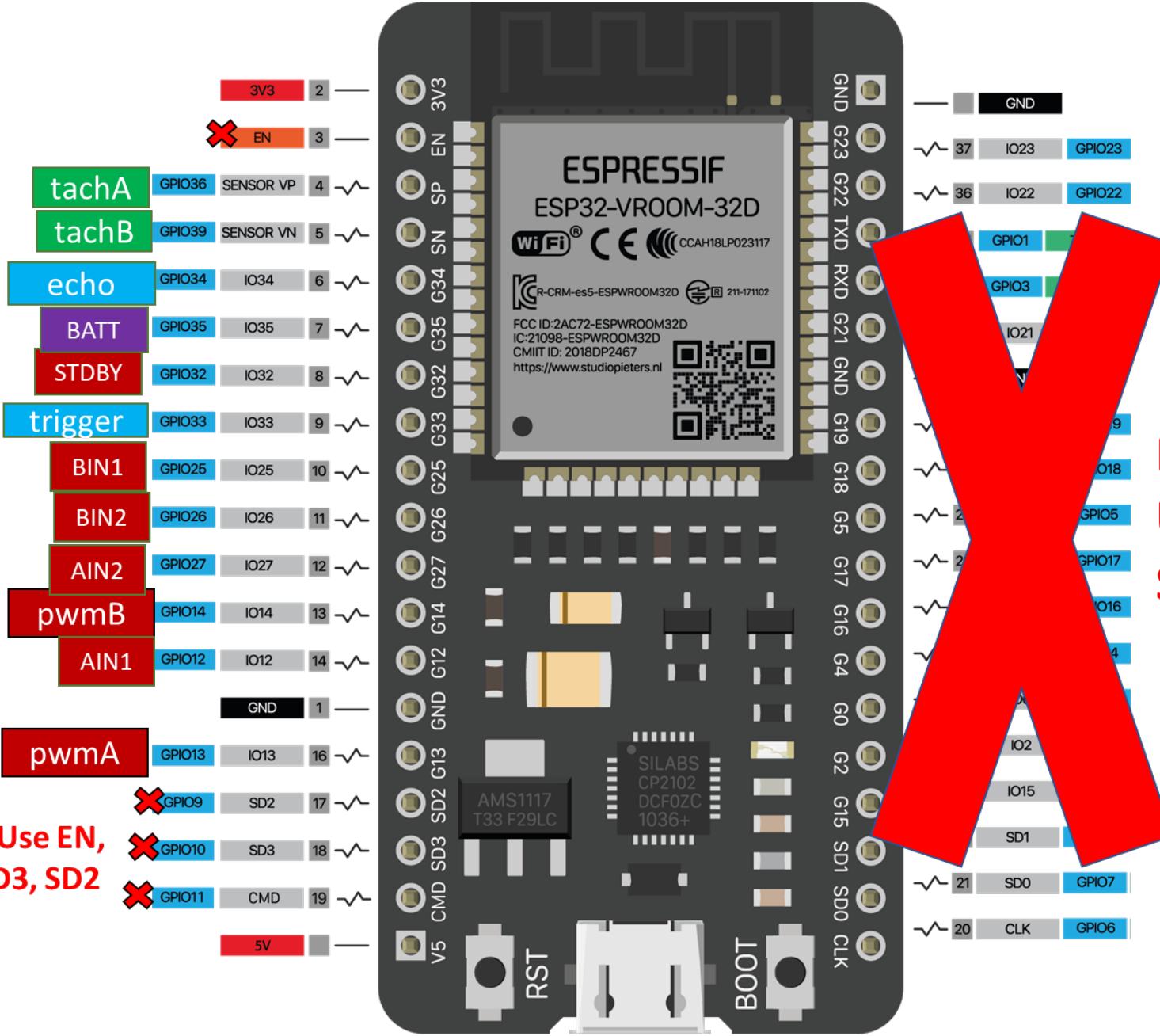
All modules related to the camp is available here:

<https://www.reachrf.com/stem-camp>

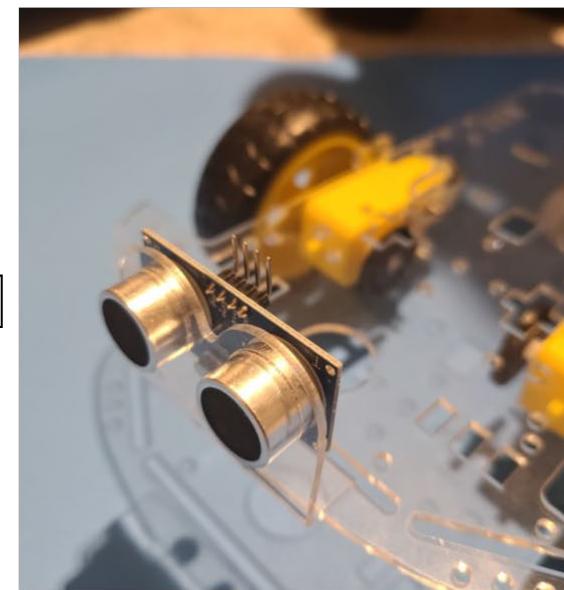
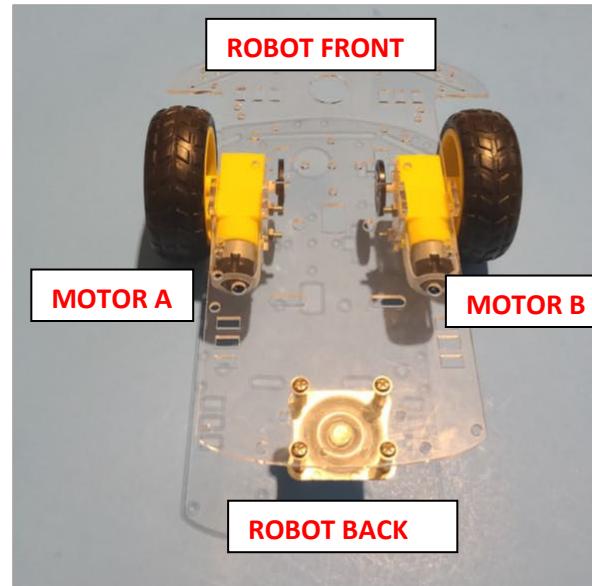
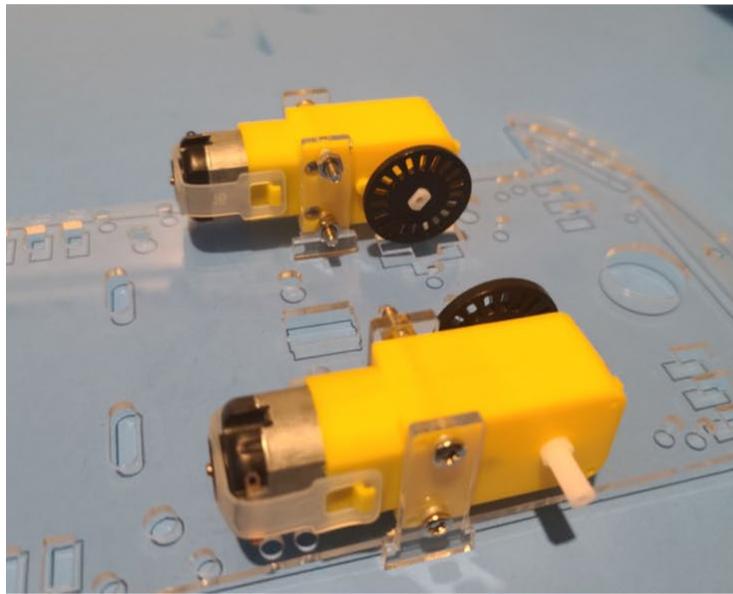


Front of  
Robot Car

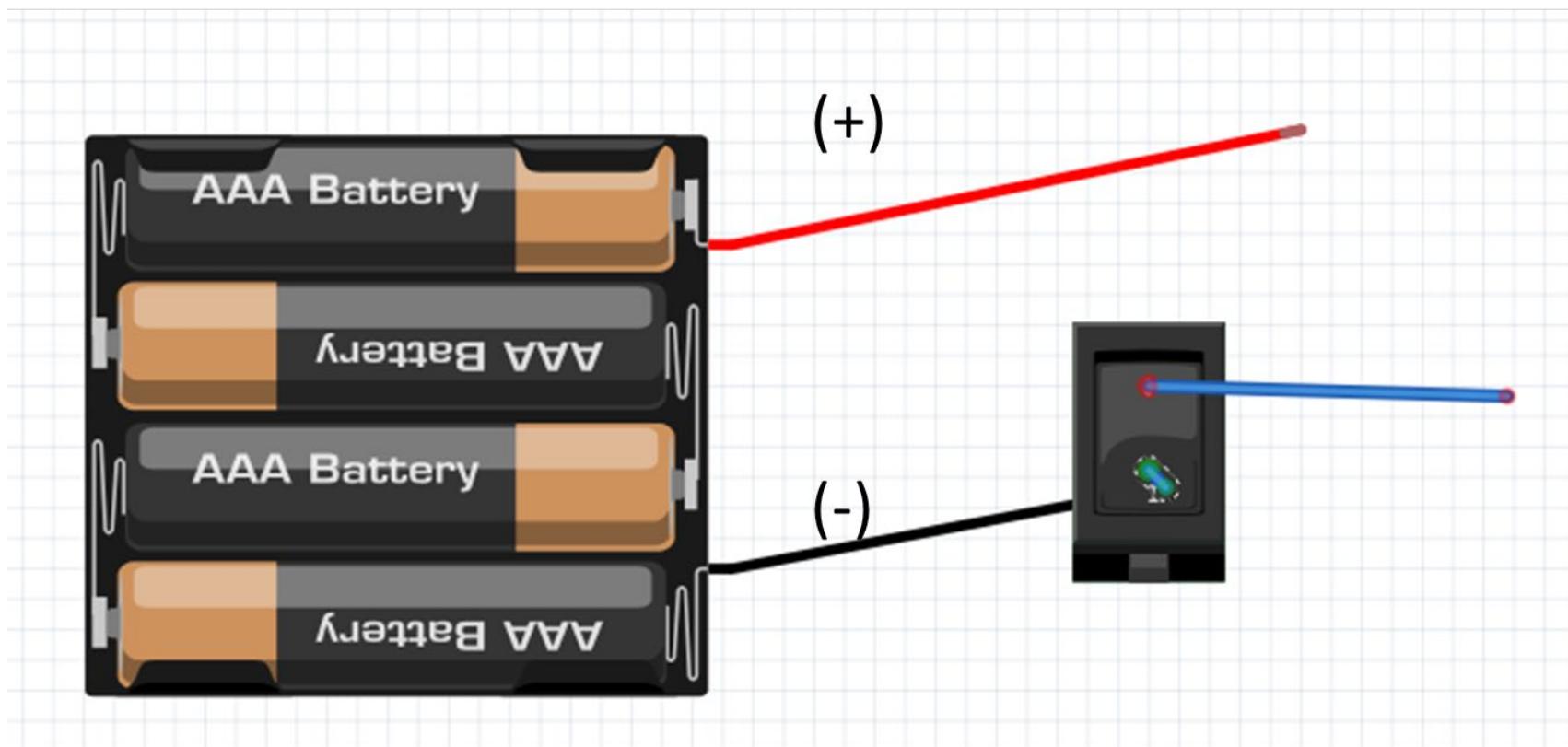




# Module 1



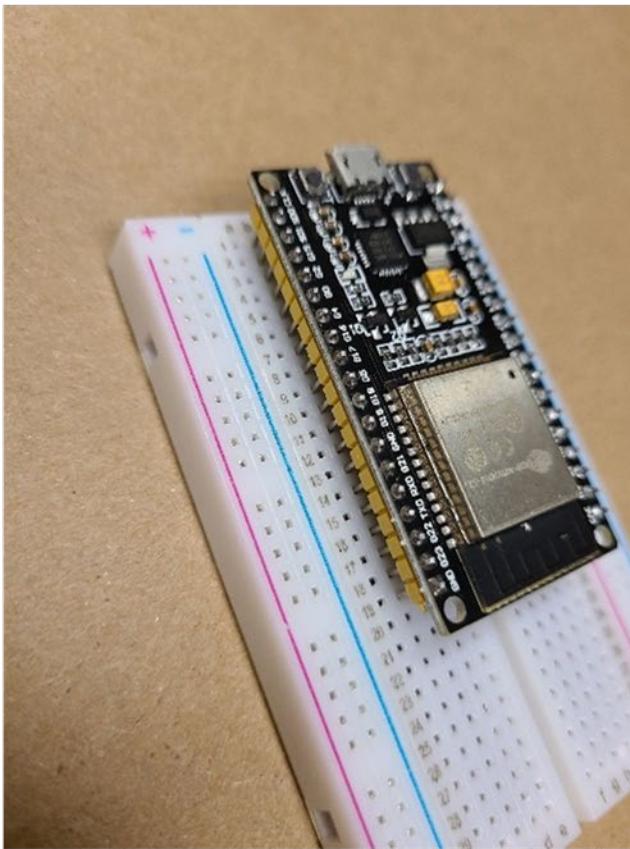
# Module 2



# Module 3

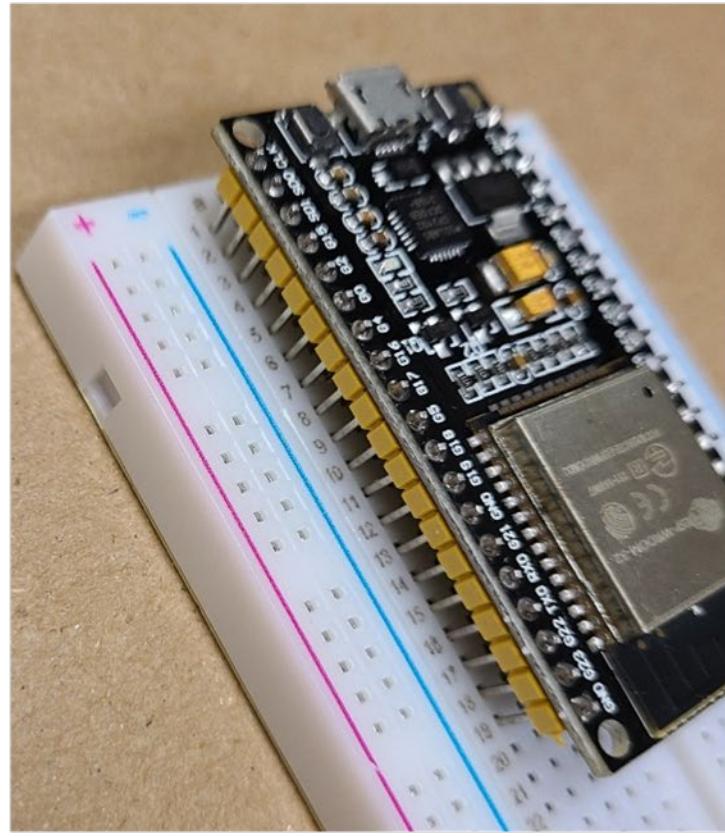
If you are able to expose columns **A** and **J** **while mounting**, that is good.

Both column **A** and **J** are exposed.

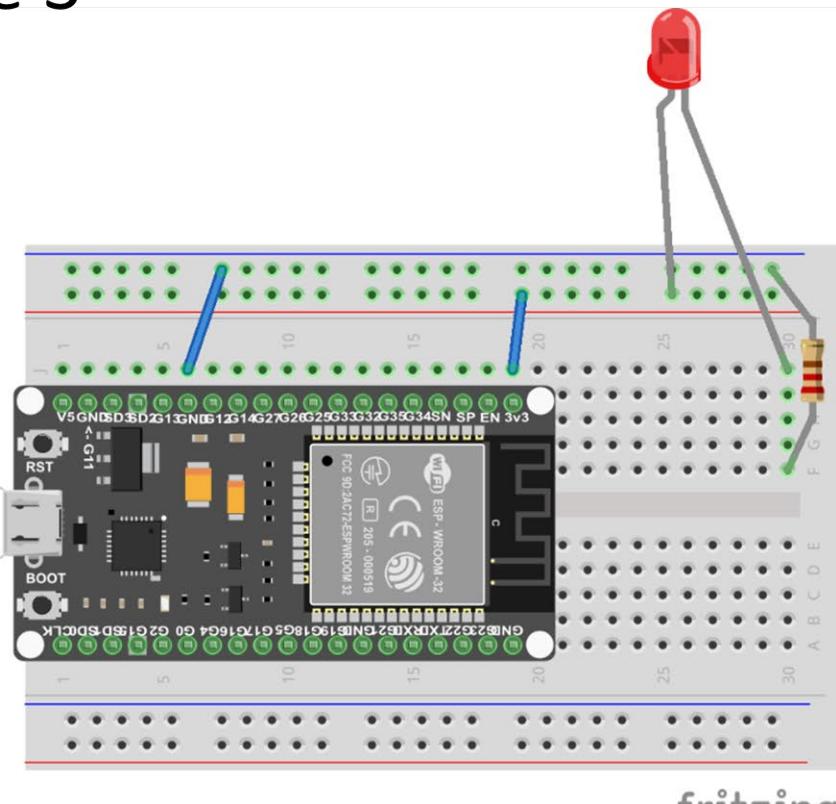
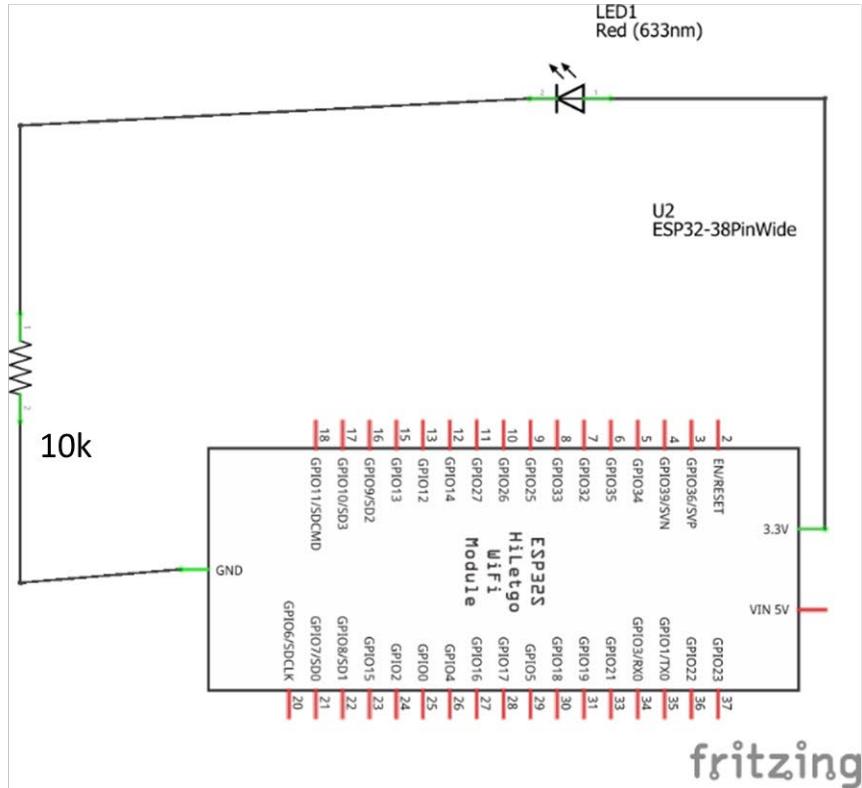


If you are not able to expose both column **A** and **J** then only expose column **J**, by inserting the side of the ESP32 into column **A**.

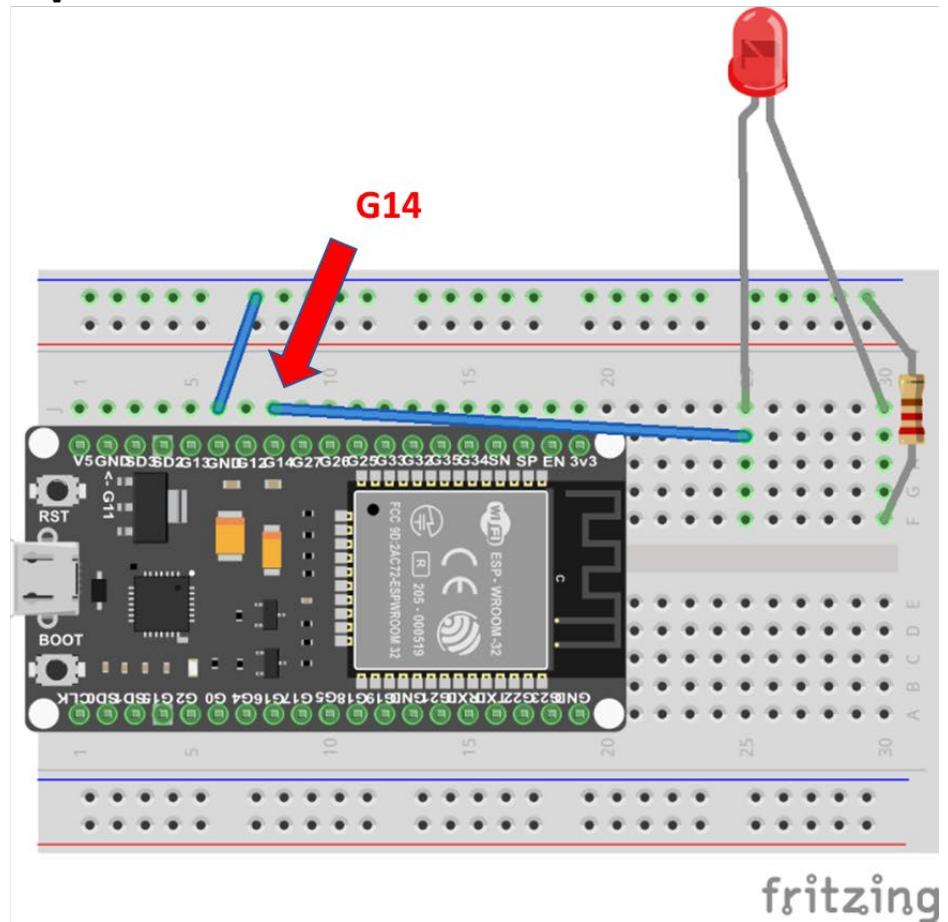
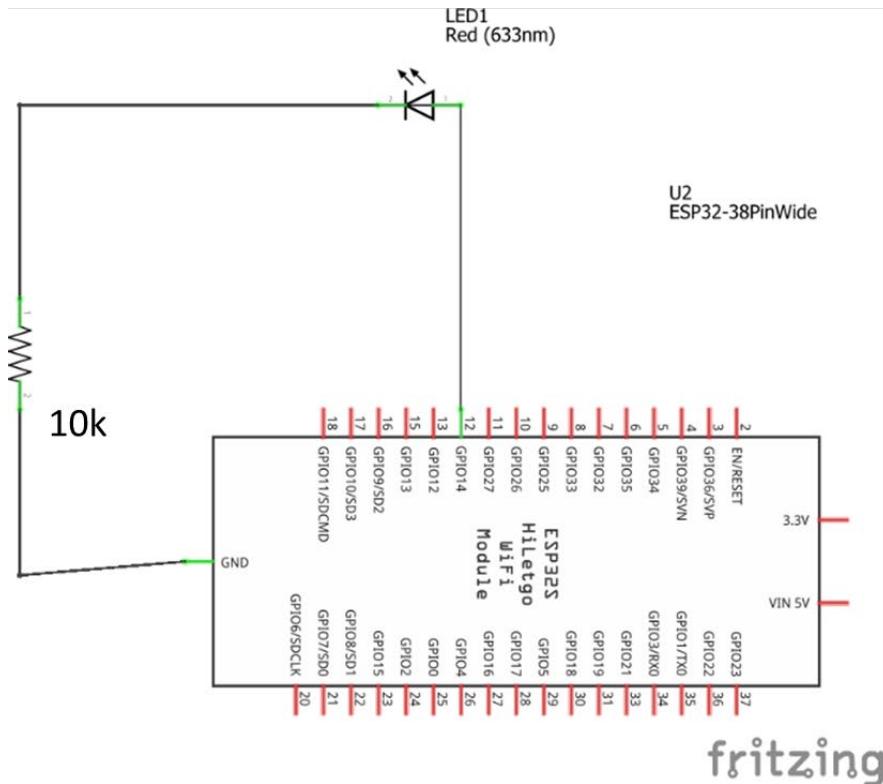
Only column **J** is exposed.



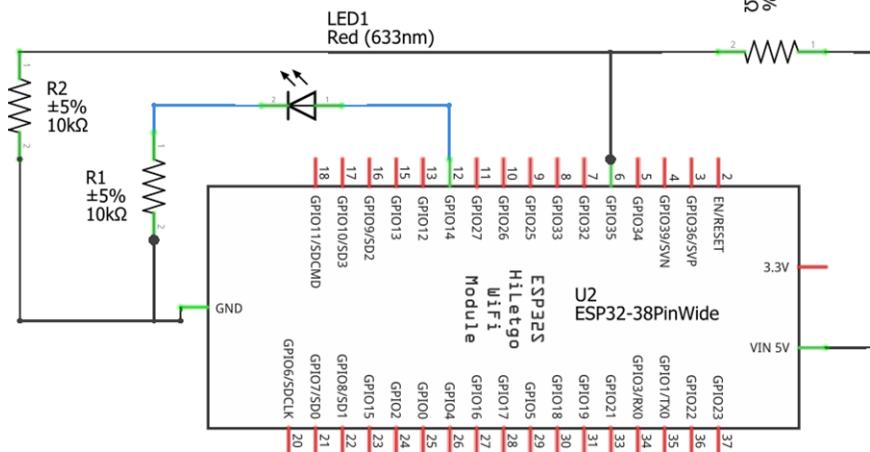
# Module 3



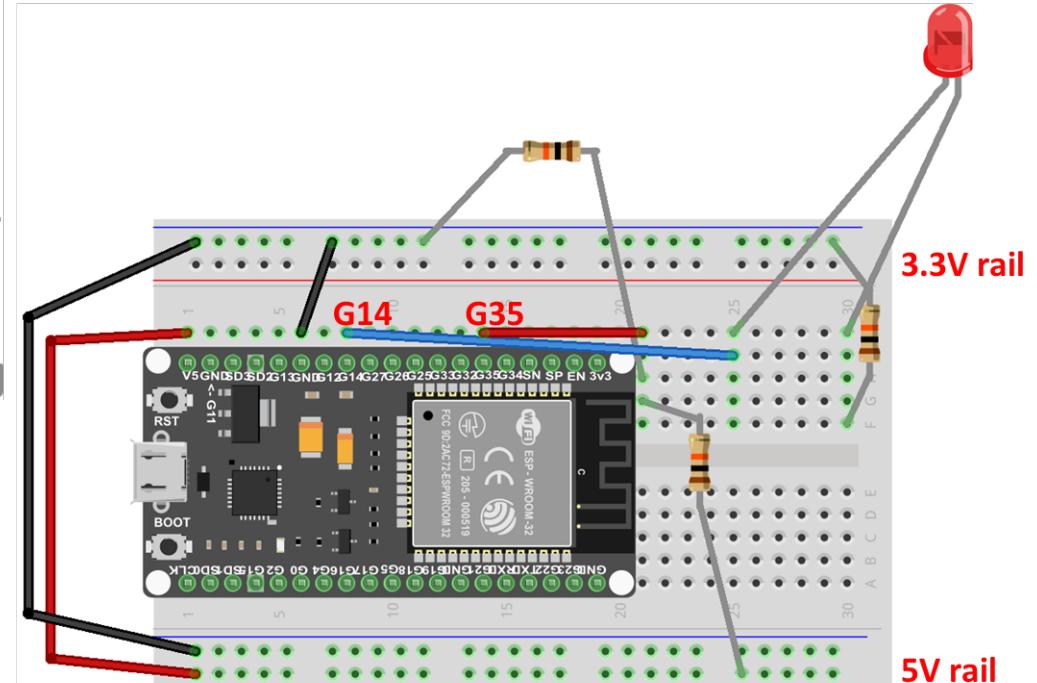
# Module 4



# Module 5

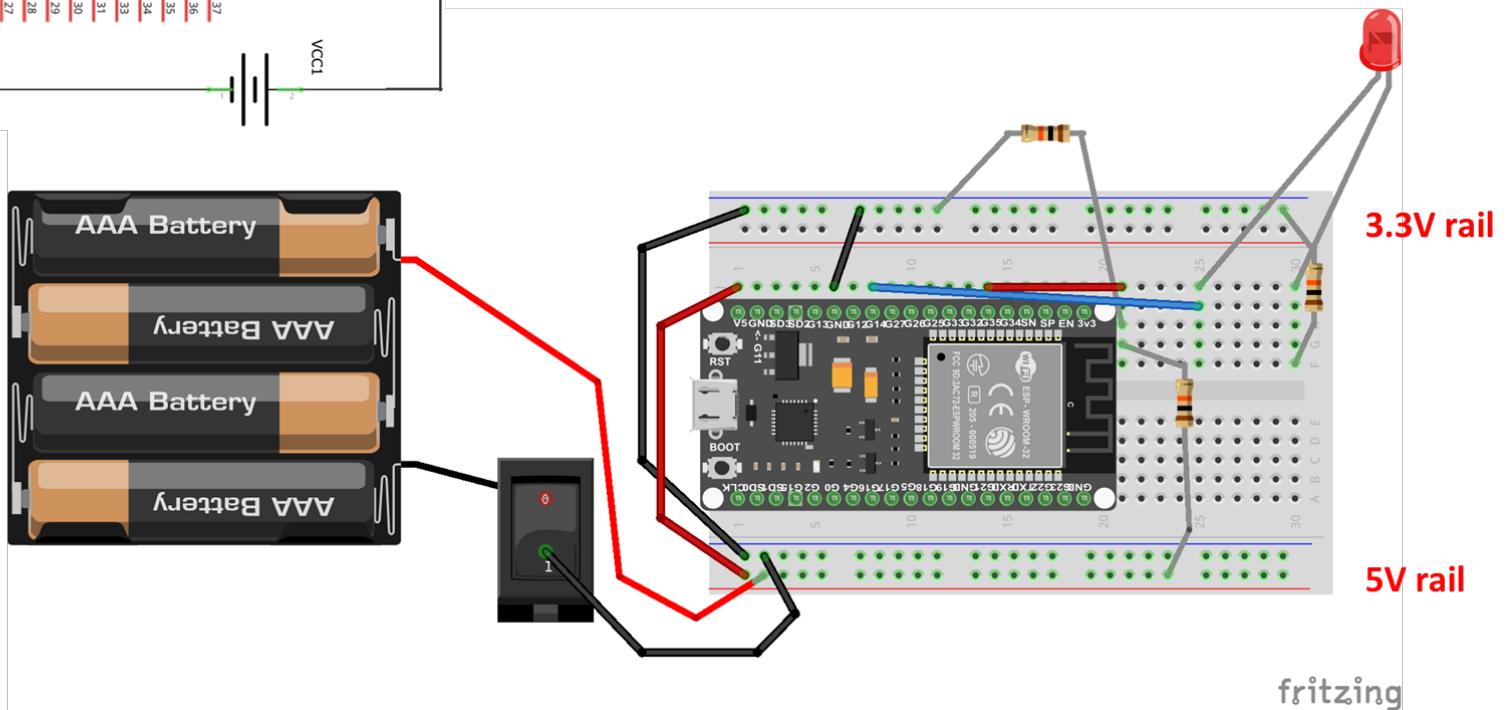
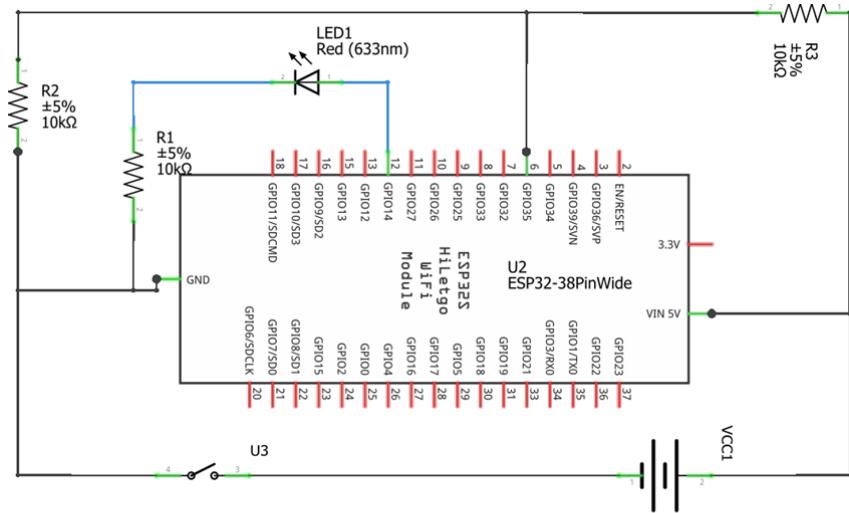


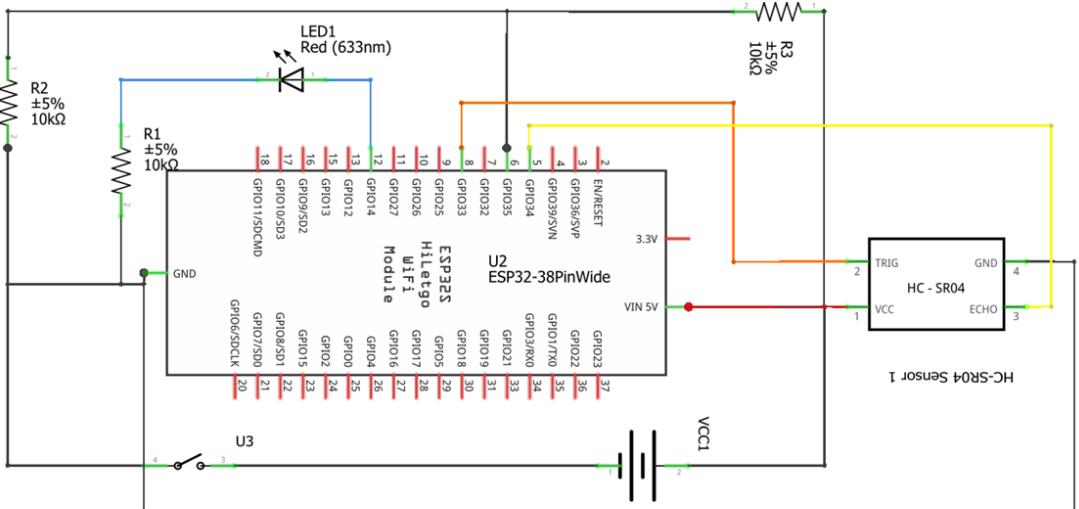
fritzing



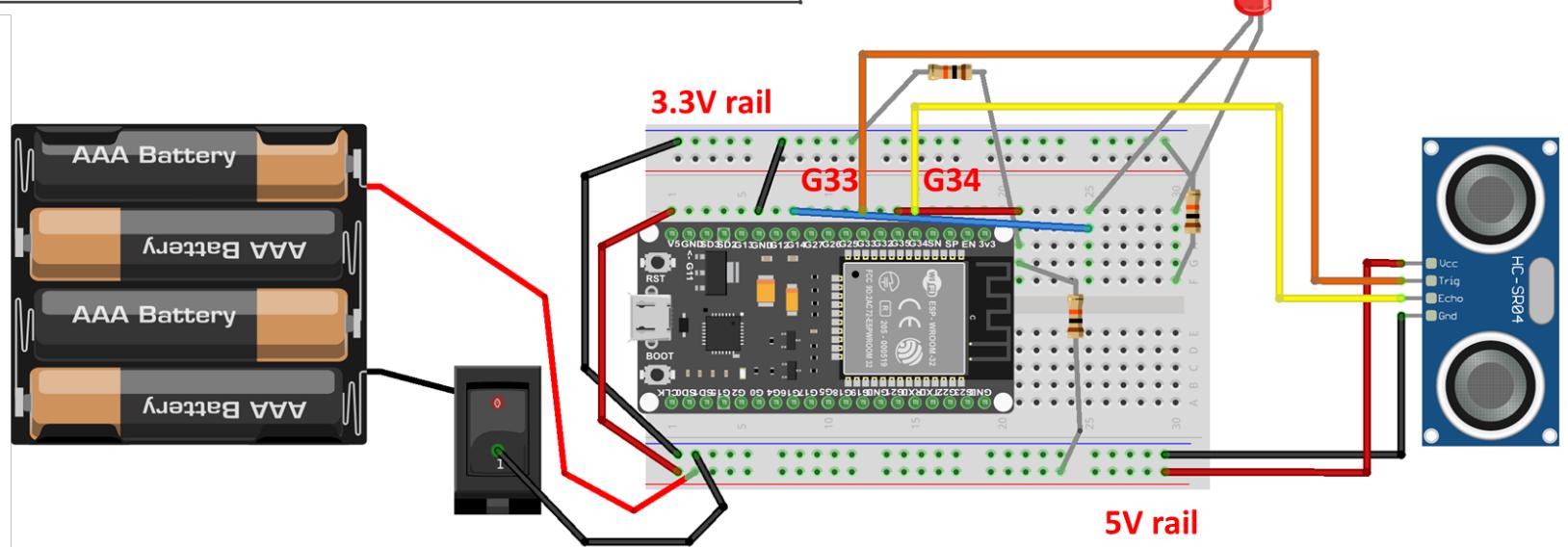
fritzing

# Module 6



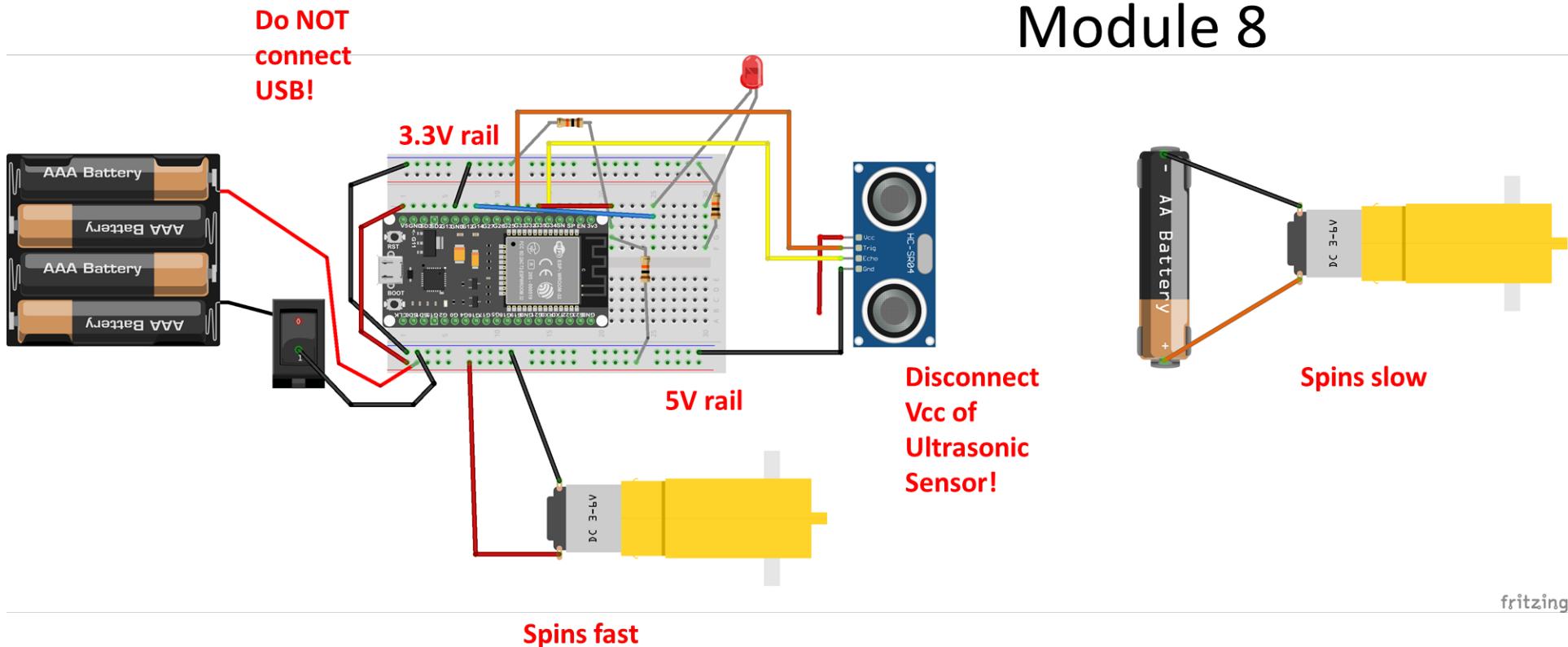


## Module 7

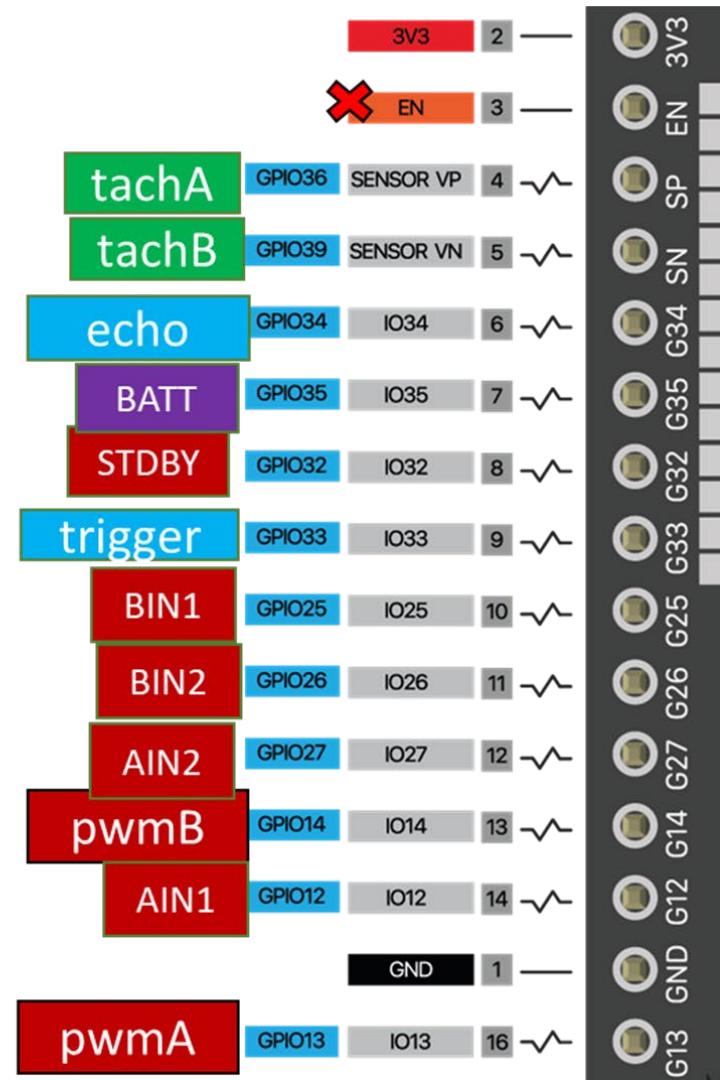
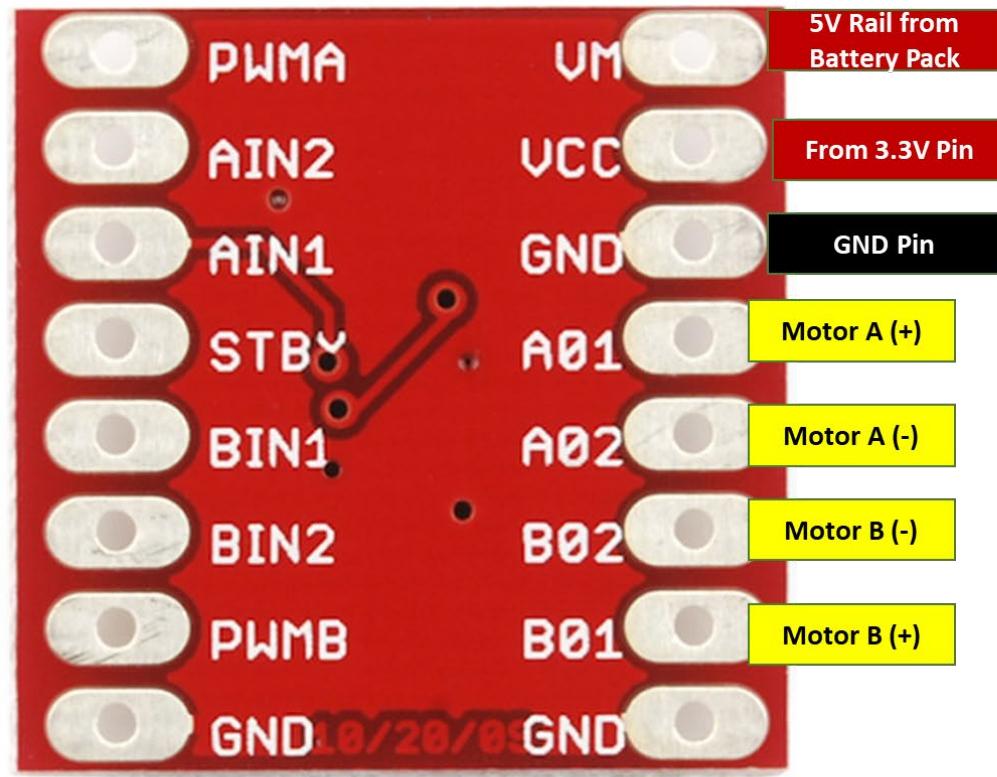


**Do not turn the battery pack on! You will damage the ultrasonic sensor.**

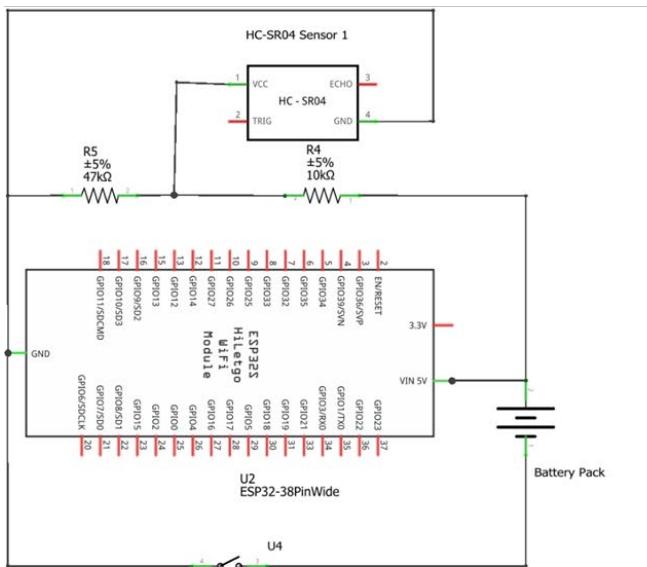
# Module 8



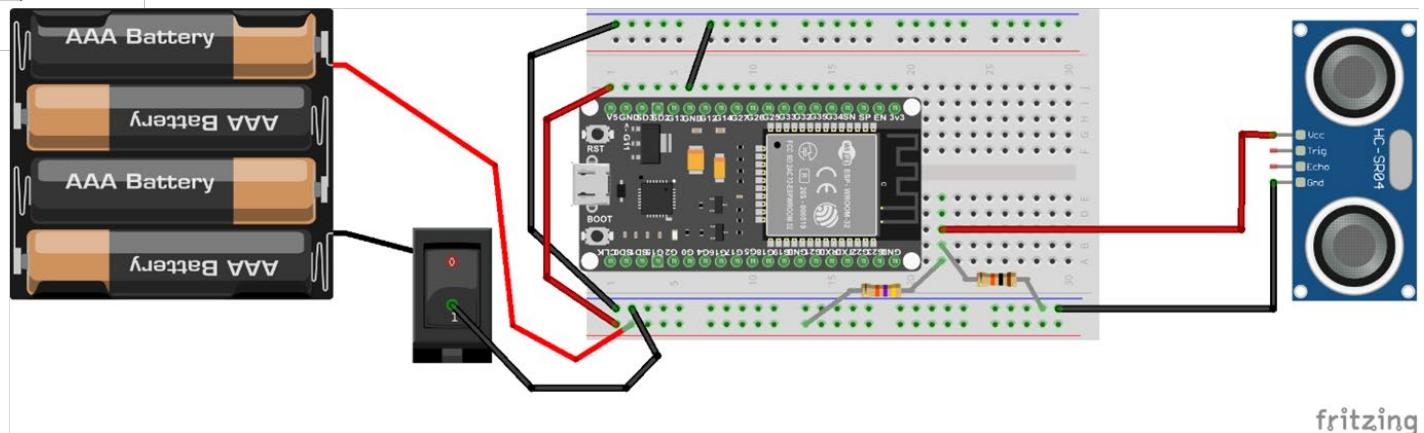
# Module 9



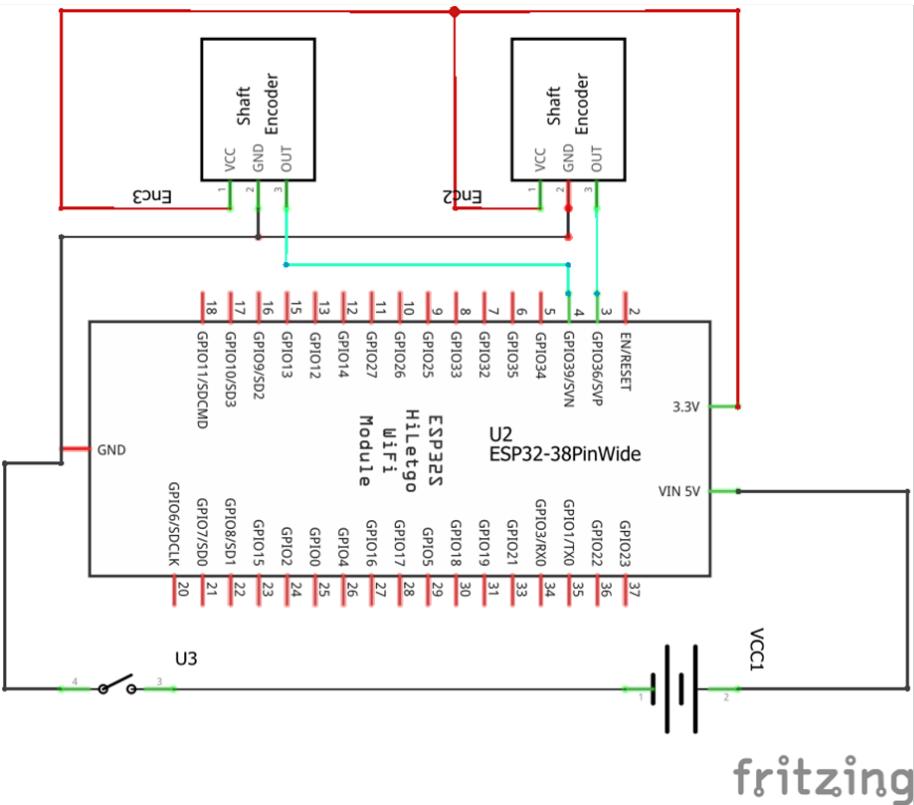
# Module 10 (only affects the Ultrasonic Sensor Vcc)



Create a new Vcc circuit  
for the Ultrasonic Sensor.



fritzing



## Module 11 (adding Tachometers)

