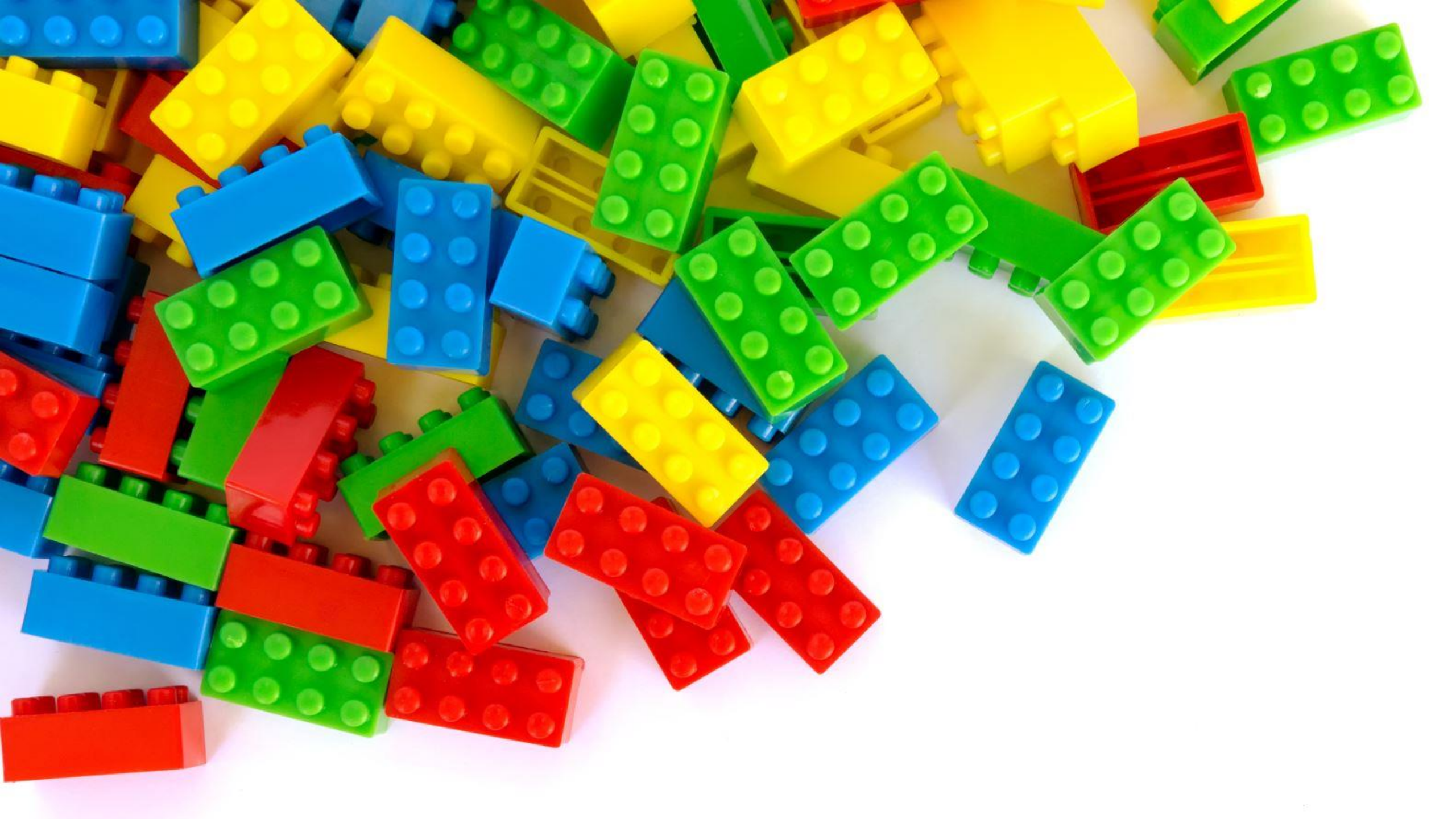
#CIAOPS

Hard Core IoT

October 2023

@directorcia

http://about.me/ciaops



THE UNIVERSITY OF NEW SOUTH WALES

THIS IS TO CERTIFY THAT

ROBERT DOUGLAS CRANE

HAS THIS DAY BEEN ADMITTED BY THE COUNCIL
TO THE DEGREE OF

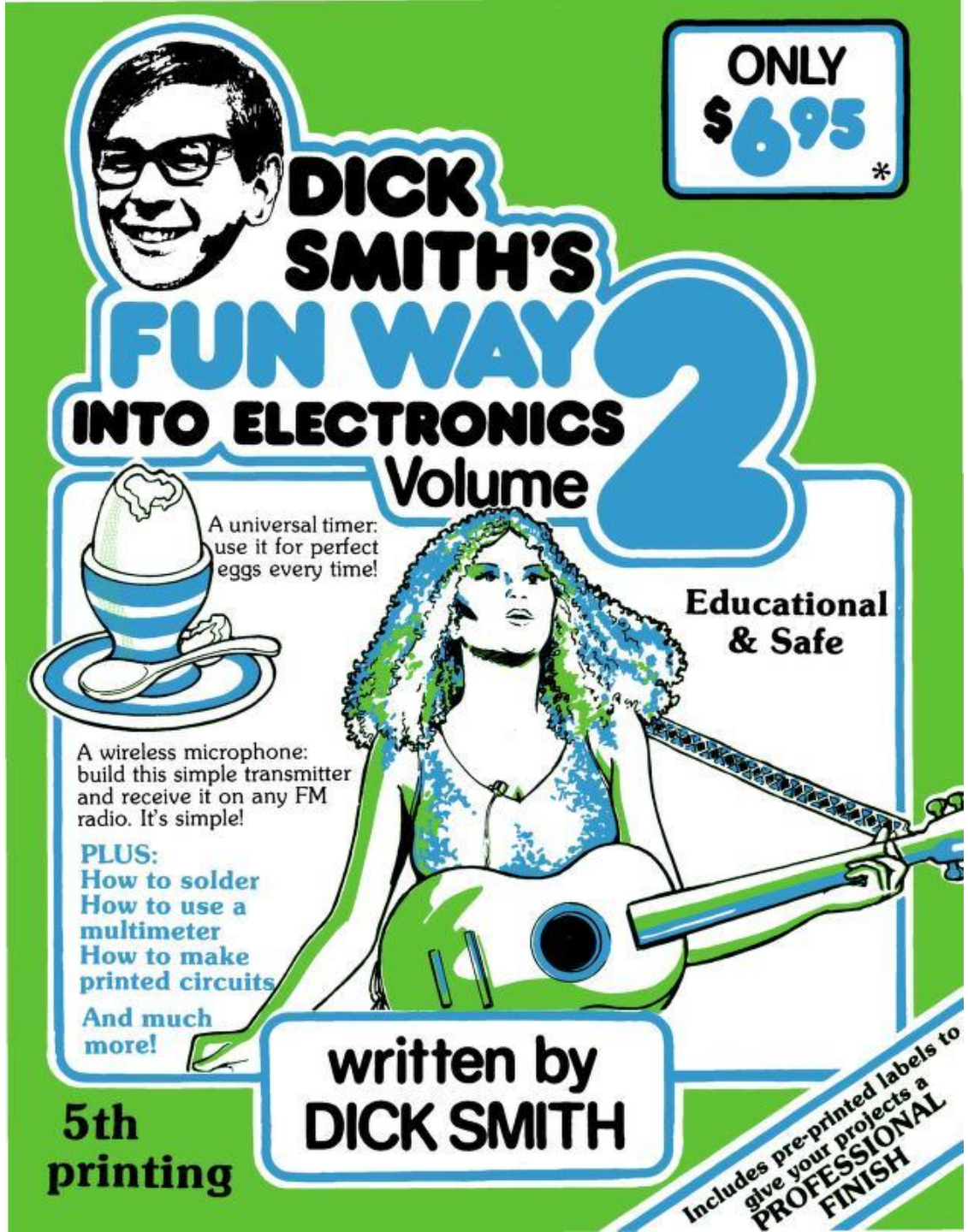
BACHELOR OF ENGINEERING
IN ELECTRICAL ENGINEERING

CHANCELLOR

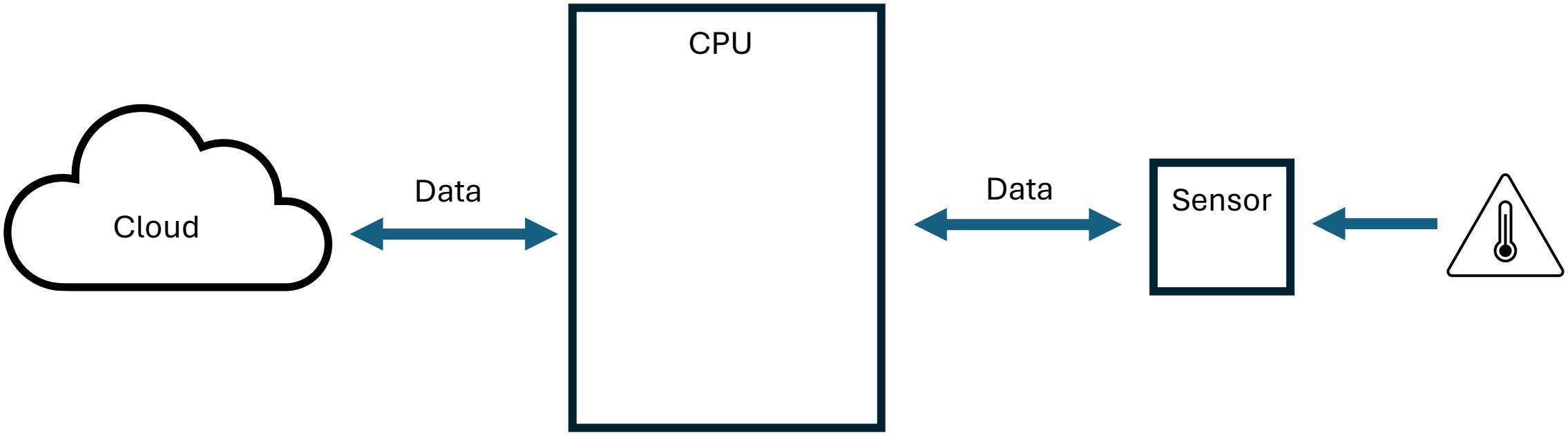
VICE-CHANCELLOR

THE UNIVERSITY OF NEW SOUTH WALES

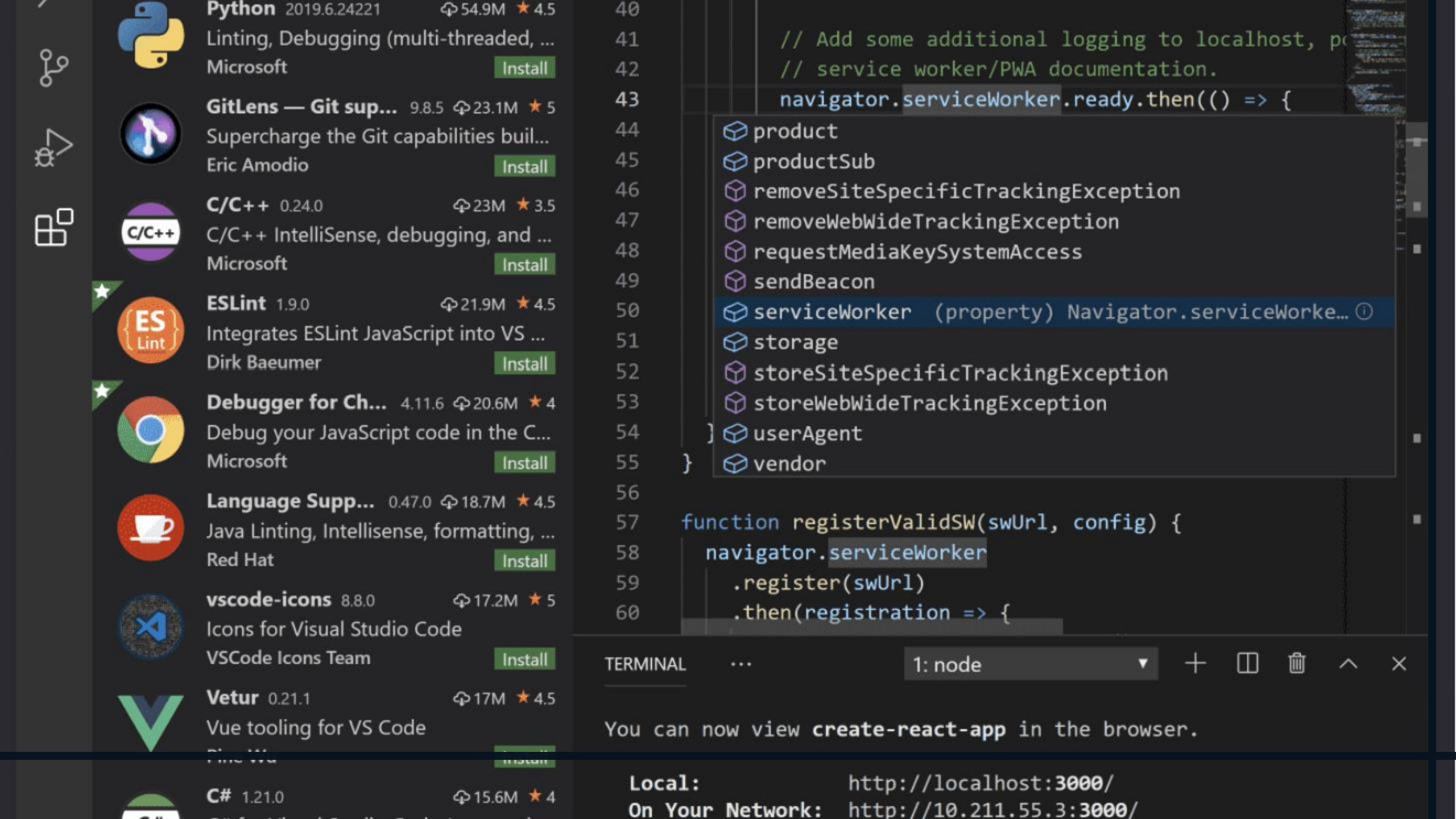
DEPUTY PRINCIPAL AND
REGISTRAR

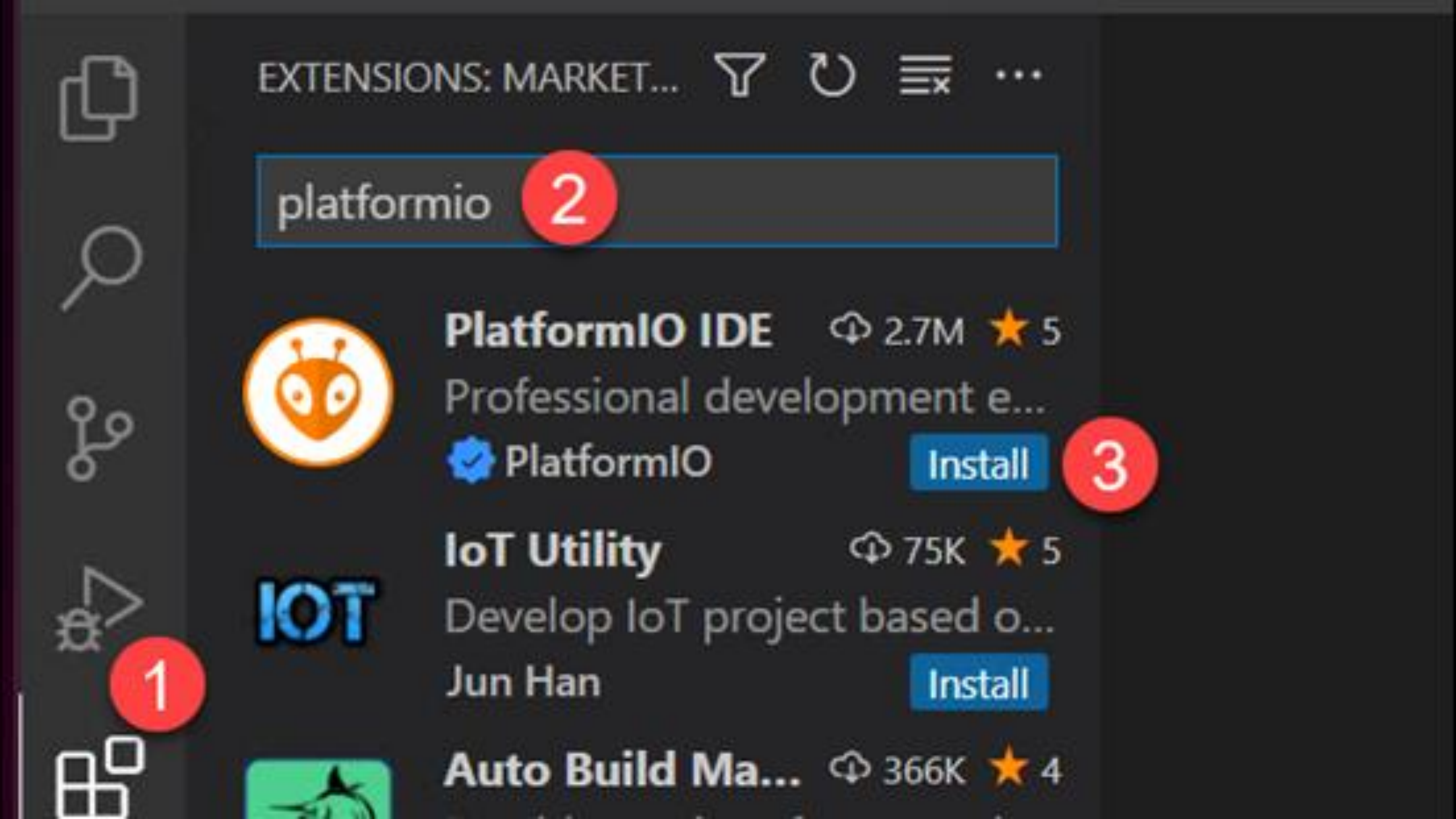

ONLY
$6.95 *
DICK SMITH'S
FUN WAY
INTO ELECTRONICS
Volume 2
A universal timer: use it for perfect eggs every time!
Educational & Safe
A wireless microphone: build this simple transmitter and receive it on any FM radio. It's simple!
PLUS:
How to solder
How to use a multimeter
How to make printed circuits
And much more!
written by DICK SMITH
5th printing
Includes pre-printed labels to give your projects a PROFESSIONAL FINISH

https://www.youtube.com/@MarkRober


CPU
Cloud
Data
Data
Sensor

index.html">Home
home-events.html">Home
multi-col-menu.html">Mult
has-children"> <a href="#"
tall-button-header.
image-logo.html">Ima
active"><a href="tall-
has-children"> <a href="#">Carou
variable-width-slider.h
testimonial-slider.html
featured-work-slider.htm
equal-column-slider.html
video-slider.html">Video
mini-bootstrap-carousel.ht


Python 2019.6.24221 54.9M 4.5
Linting, Debugging (multi-threaded, ...
Microsoft
Install
GitLens — Git sup... 9.8.5 23.1M 5
Supercharge the Git capabilities buil...
Eric Amodio
Install
C/C++ 0.24.0 23M 3.5
C/C++ IntelliSense, debugging, and ...
Microsoft
Install
ESLint 1.9.0 21.9M 4.5
Integrates ESLint JavaScript into VS ...
Dirk Baeumer
Install
Debugger for Ch... 4.11.6 20.6M 4
Debug your JavaScript code in the C...
Microsoft
Install
Language Supp... 0.47.0 18.7M 4.5
Java Linting, Intellisense, formatting, ...
Red Hat
Install
vscode-icons 8.8.0 17.2M 5
Icons for Visual Studio Code
VSCode Icons Team
Install
Vetur 0.21.1 17M 4.5
Vue tooling for VS Code
C# 1.21.0 15.6M 4
40
41 // Add some additional logging to localhost, p
42 // service worker/PWA documentation.
43 navigator.serviceWorker.ready.then(() => {
44 product
45 productSub
46 removeSiteSpecificTrackingException
47 removeWebWideTrackingException
48 requestMediaKeySystemAccess
49 sendBeacon
50 serviceWorker (property) Navigator.serviceWorke...
51 storage
52 storeSiteSpecificTrackingException
53 storeWebWideTrackingException
54 userAgent
55 vendor
56
57 function registerValidSW(swUrl, config) {
58 navigator.serviceWorker
59 .register(swUrl)
60 .then(registration => {
TERMINAL
1: node
You can now view create-react-app in the browser.
Local: http://localhost:3000/
On Your Network: http://10.211.55.3:3000/


EXTENSIONS: MARKET...
platformio
2
PlatformIO IDE
2.7M
5
Professional development e...
PlatformIO
Install
3
IoT Utility
75K
5
Develop IoT project based o...
Jun Han
Install
Auto Build Ma...
366K
4
1

This wizard allows you to **create new** PlatformIO project or **update existing**. In the last case, you need to uncheck "Use default location" and specify path to existing project.

Name: One

Board: Adafruit HUZZAH ESP8266

Framework: Arduino

Location: Use default location

Main.cpp

```
#include <Arduino.h>

int LED_Pin = 0;
int status = 1;

void setup(){
        pinMode(LED_Pin, OUTPUT);
}

void loop() {  // put your main code here, to run repeatedly:
    if (status) {
        digitalWrite(LED_Pin, HIGH);
    } else {
        digitalWrite(LED_Pin, LOW);
    }
    status = 1-status;
    delay (1000);
}
```

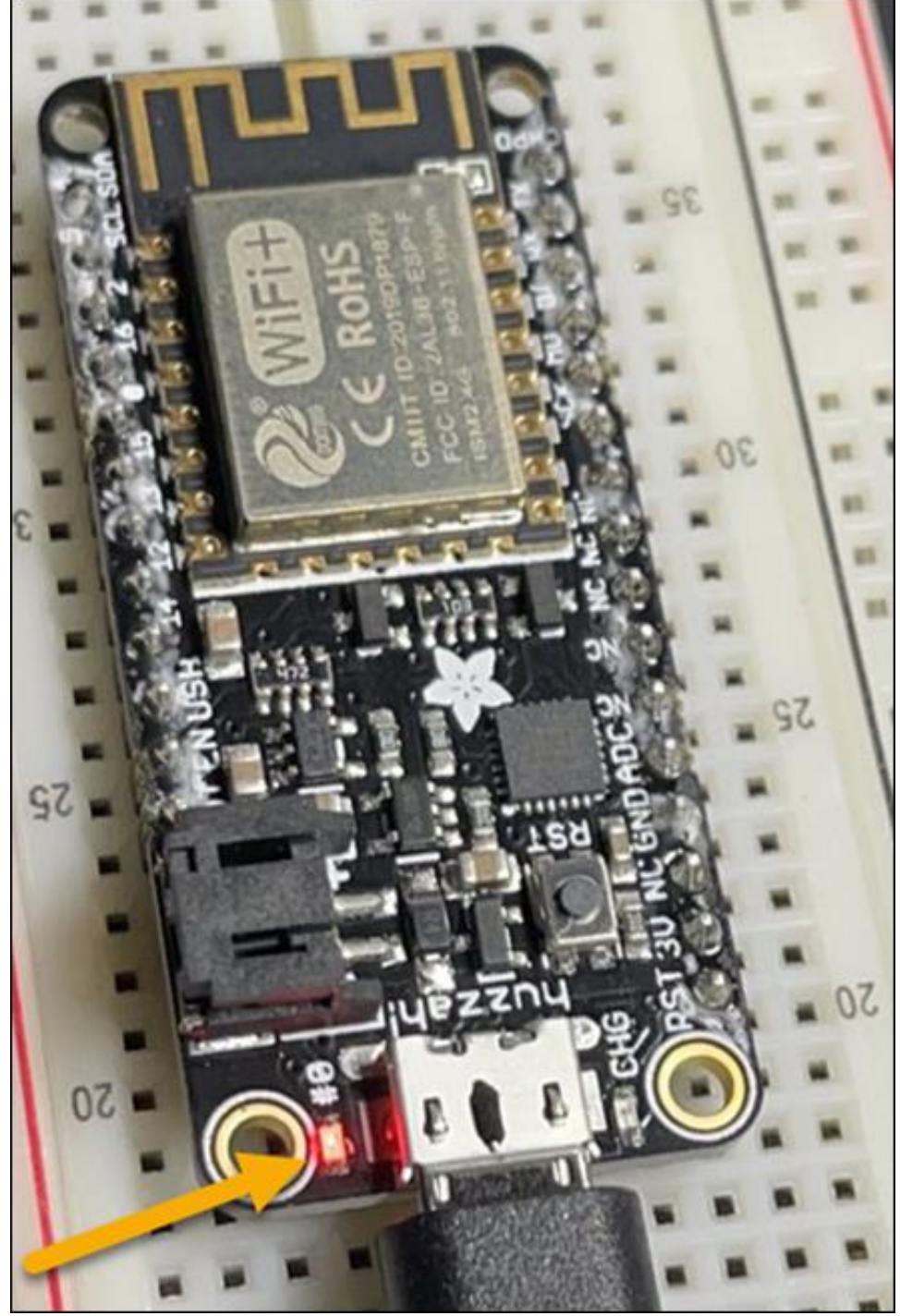
Platformio.ini

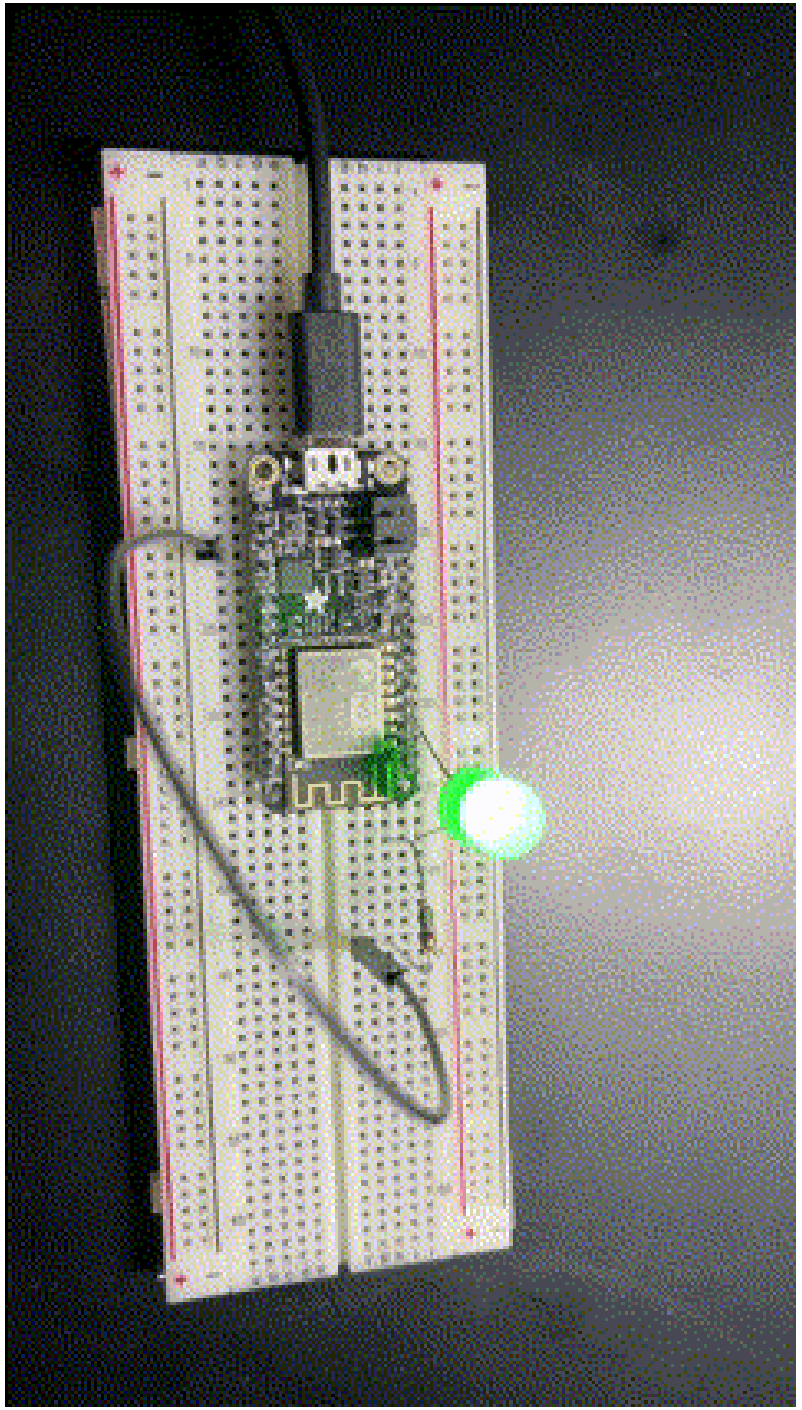
```
[env:sparkfun_esp32s2_thing_plus]
platform = espressif32
board = sparkfun_esp32s2_thing_plus
framework = arduino
```

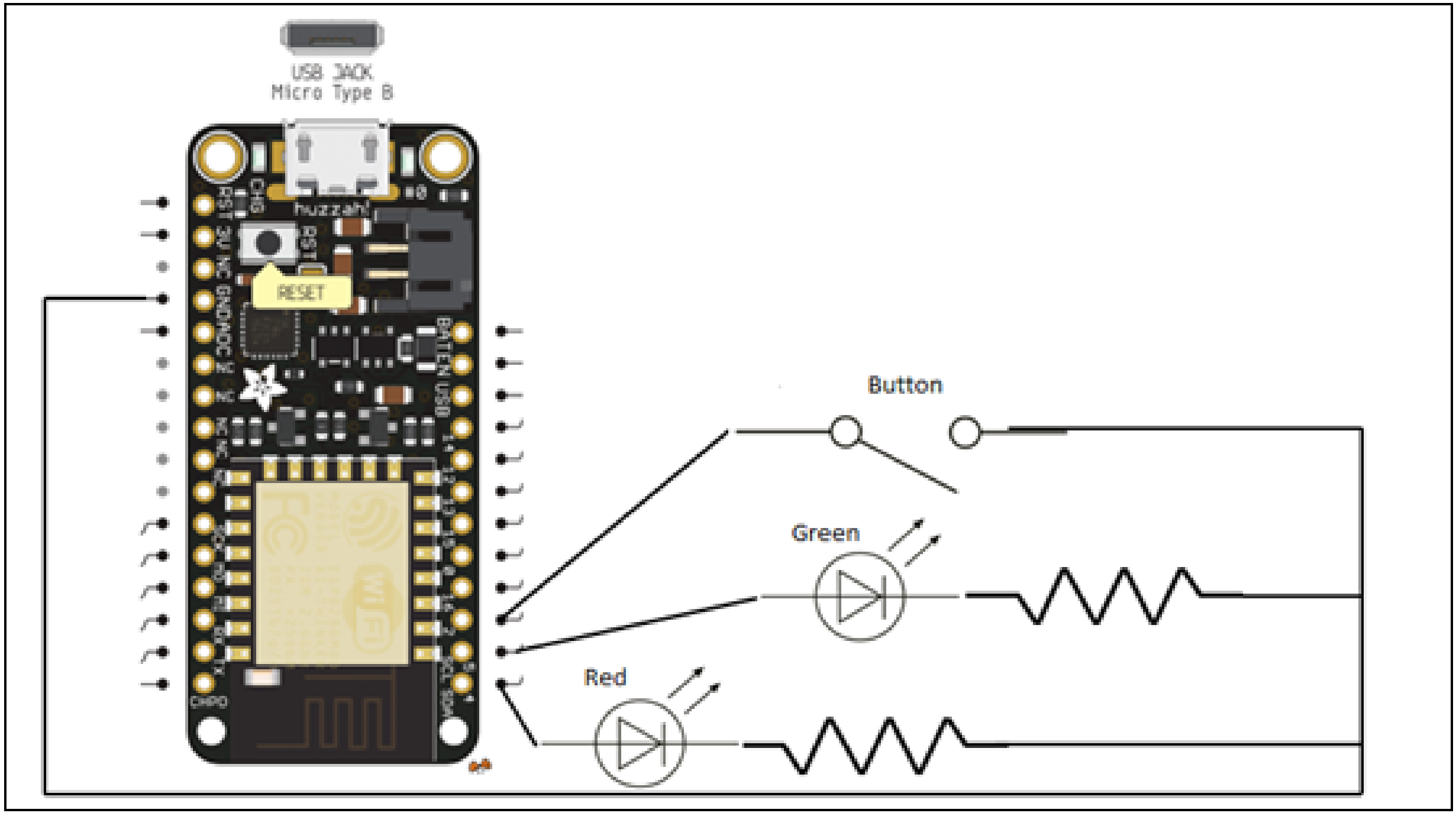
Iot_configs.h

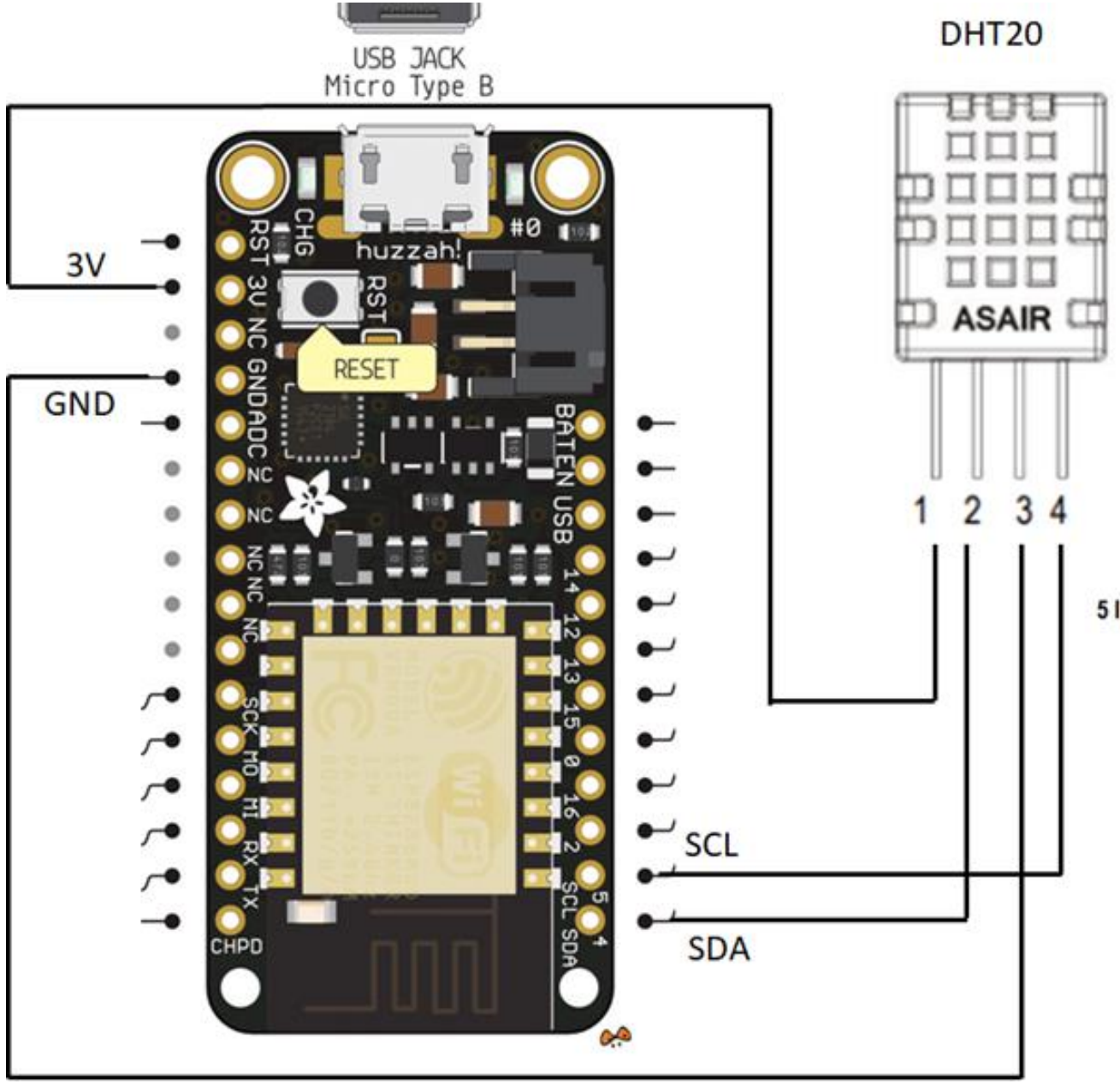
// Wifi
#define WIFI_SSID “myssid"
#define WIFI_PASSWORD
“myssidpassword“

// Dashboard
#define AIO_SERVER "io.adafruit.com"
#define AIO_SERVERPORT 1883
#define AIO_USERNAME “aio-username"
#define AIO_KEY "aioa-apikey"


WiFi+
RoHS
CMIIT ID-2019DP1879
FCC ID 2AL38-ESP-F
ISM2.4G
SCL SDA
CHPD
NC NC NC
NC
NC
ADC
GND
RST
NC
RST 3V
CHG
huzzah
#8
20
25
30
35




USB JACK
Micro Type B
huzzah!
RESET
Button
Green
Red



5 Interface Definition

Pins	Name	Describe
1	VDD	Power supply(2.2v to 5.5v)
2	SDA	Serial Data Bidirectional port
3	GND	Ground
4	SCL	Serial clock Bidirectional port

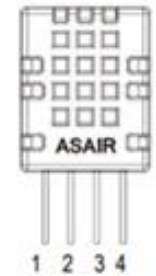
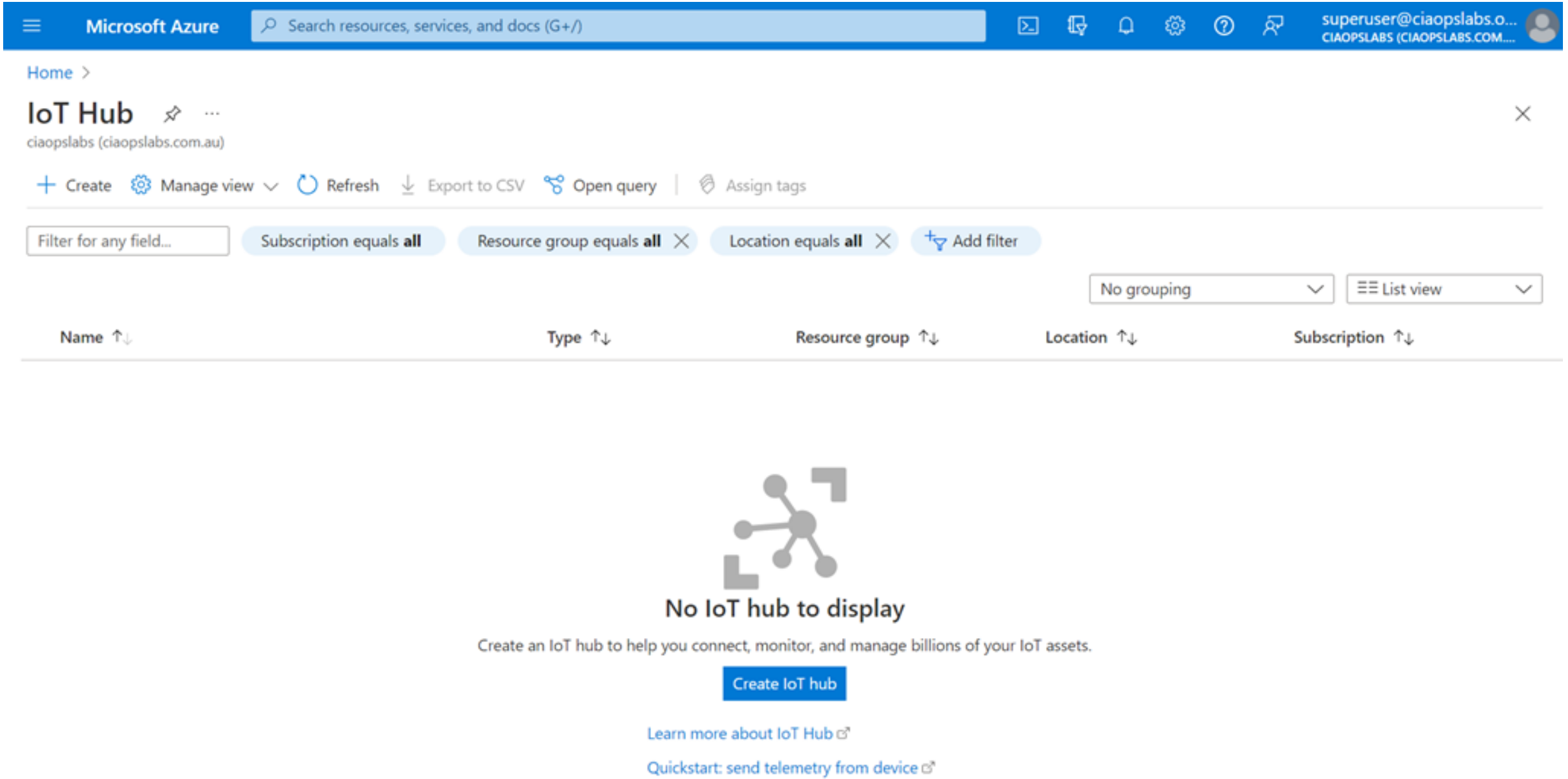


Table 5. ATH21B pin distribution (top view)


Microsoft Azure
Search resources, services, and docs (G+/)
superuser@ciaopslabs.o...
CIAOPSLABS (CIAOPSLABS.COM....
Home >
IoT Hub
ciaopslabs (ciaopslabs.com.au)
Create
Manage view
Refresh
Export to CSV
Open query
Assign tags
Filter for any field...
Subscription equals all
Resource group equals all
Location equals all
Add filter
No grouping
List view
Name
Type
Resource group
Location
Subscription
No IoT hub to display
Create an IoT hub to help you connect, monitor, and manage billions of your IoT assets.
Create IoT hub
Learn more about IoT Hub
Quickstart: send telemetry from device

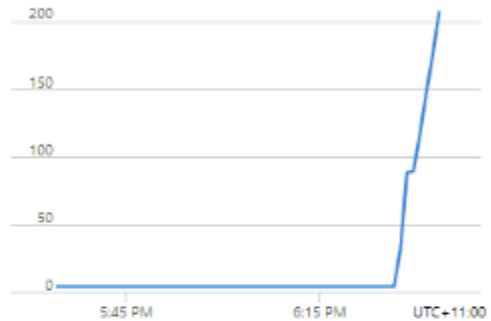
Usage | Get started

Show data for last: 1 Hour | 6 Hours | 12 Hours | 1 Day | 7 Days | 30 Days

IoT Hub Usage

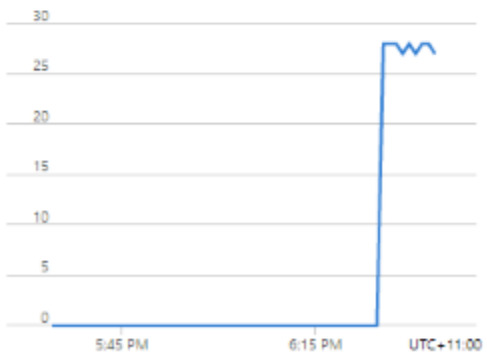
- **Messages used today:** 291
- **Daily messages quota:** 8000
- **IoT Devices:** 1

Number of messages used



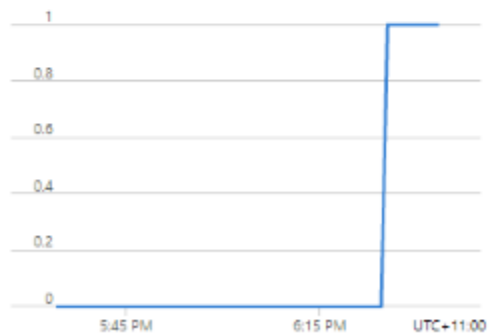
Total number of messages used (Max)
ciaopstestiothub
208

Device to cloud messages

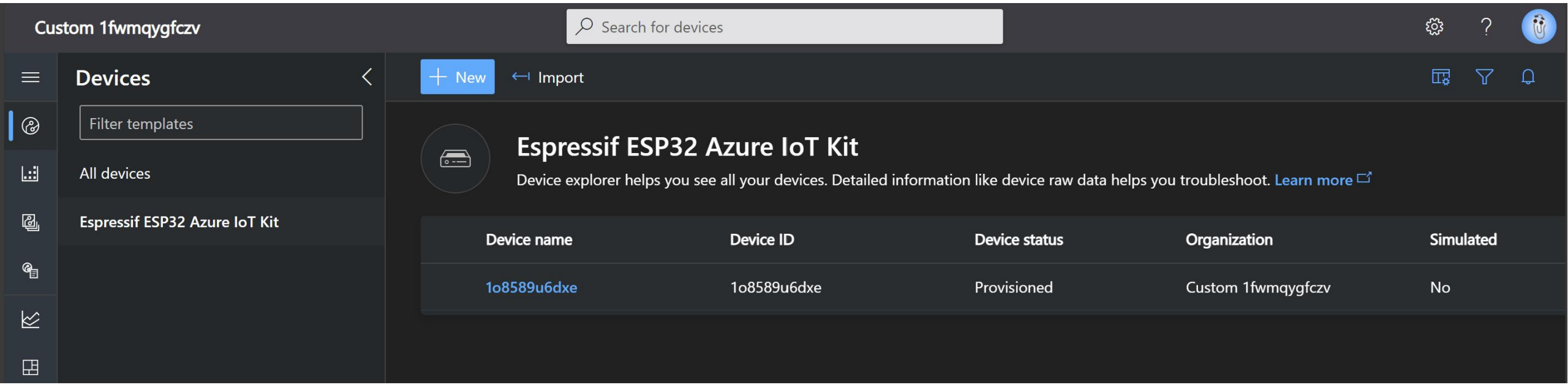


Telemetry messages sent (Count)
ciaopstestiothub
249

Connected Devices



Connected devices (Max)
ciaopstestiothub
1


Custom 1fwmqygfczv
Search for devices
Devices
Filter templates
All devices
Espressif ESP32 Azure IoT Kit
New
Import
Espressif ESP32 Azure IoT Kit
Device explorer helps you see all your devices. Detailed information like device raw data helps you troubleshoot. Learn more
Device name
Device ID
Device status
Organization
Simulated
1o8589u6dxe
1o8589u6dxe
Provisioned
Custom 1fwmqygfczv
No

Connect

- Devices
- Device groups
- Device templates
- Edge manifests

Analyze

- Data explorer
- Dashboards

Manage

- Jobs

Extend

- Rules
- Data export

Security

- Audit logs
- Permissions

Settings

Temperature Humidity Light Pressure

adafruit

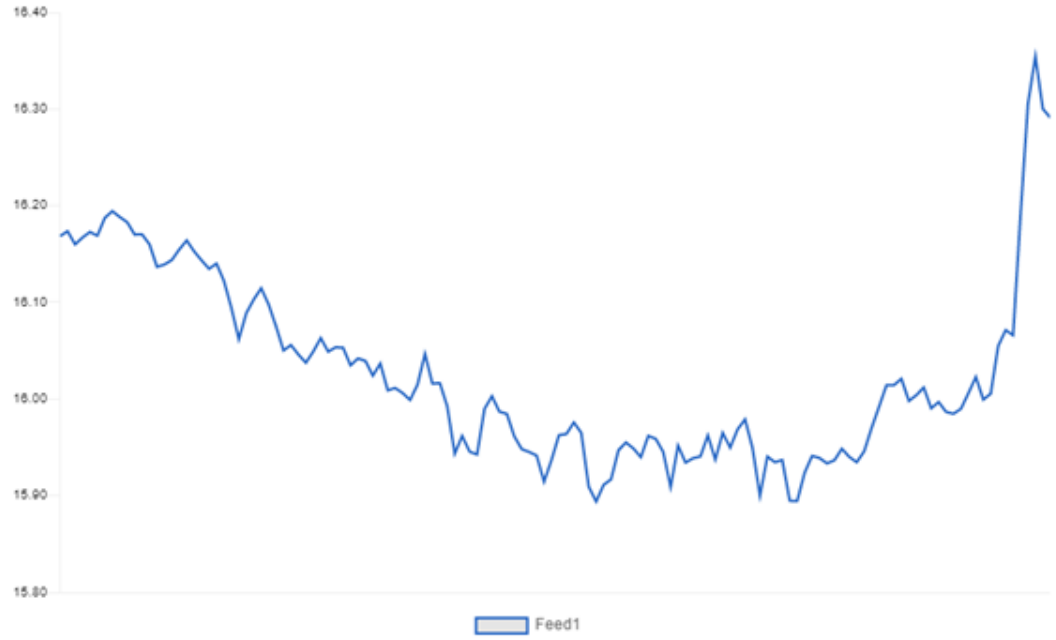
The internet of things for

The easiest way to stream, log, and interact with your data.

scientists
engineers
students
everyone
teachers
makers
tinkerers

adafruit circuit python BBC micro:bit ARDUINO

First Project

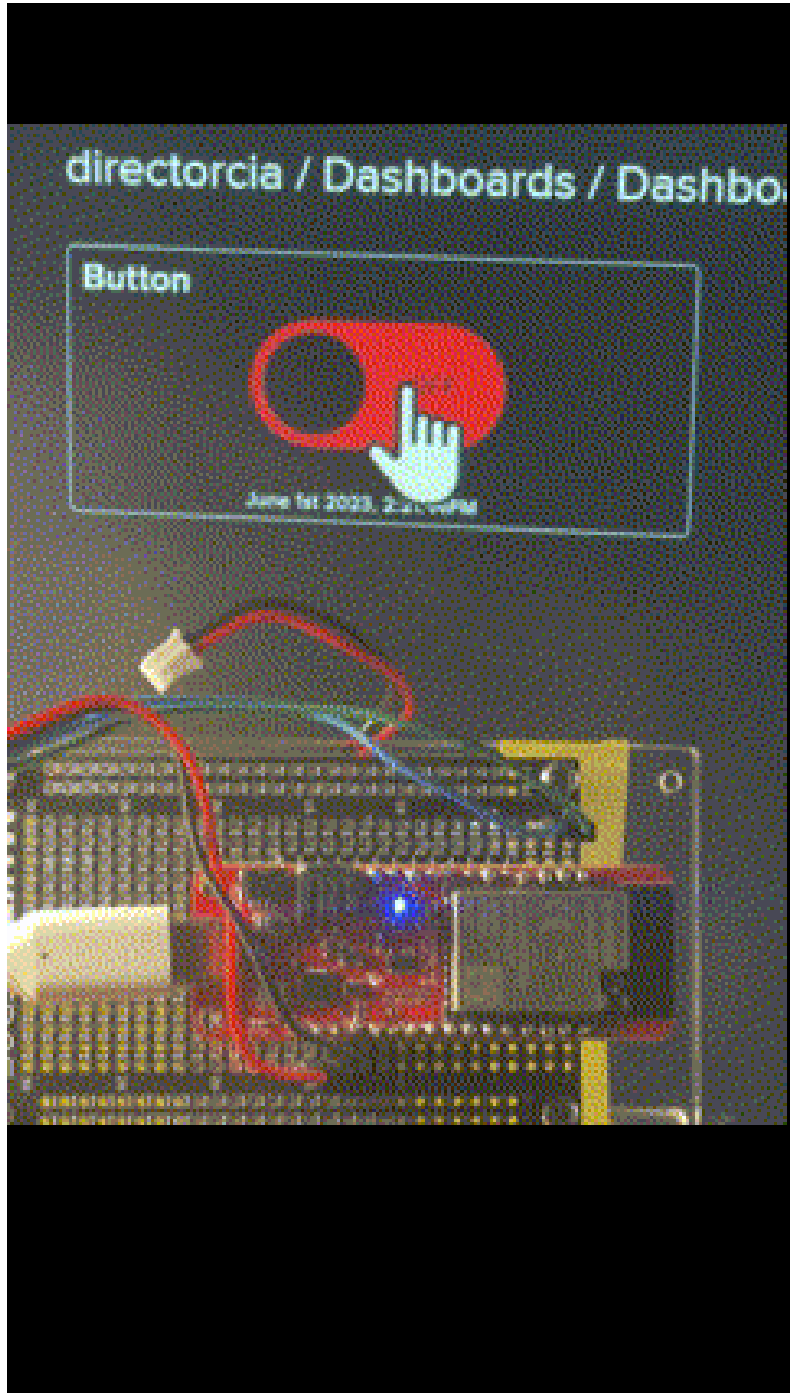


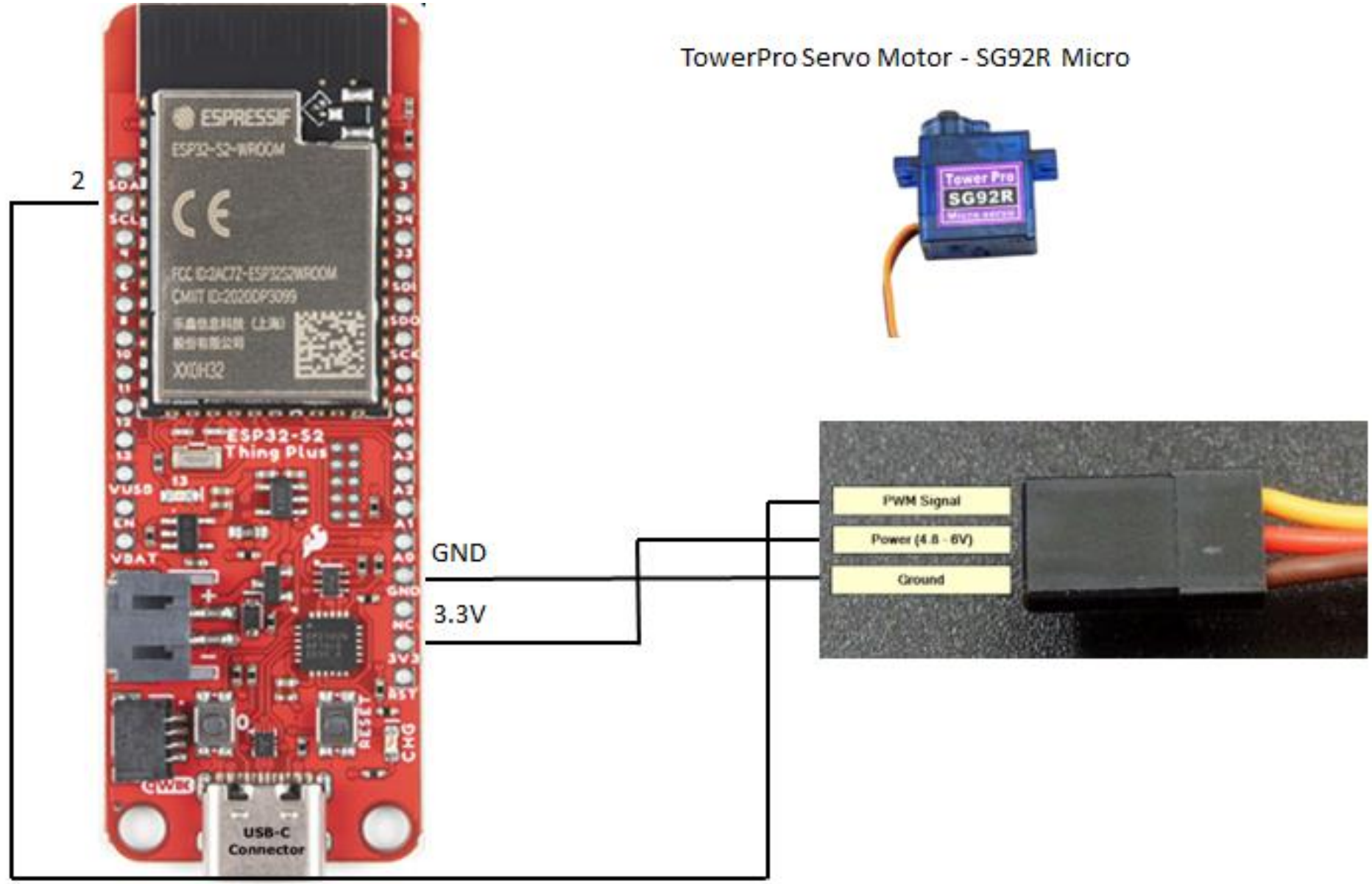
+ Add Data | Download All Data | Filter

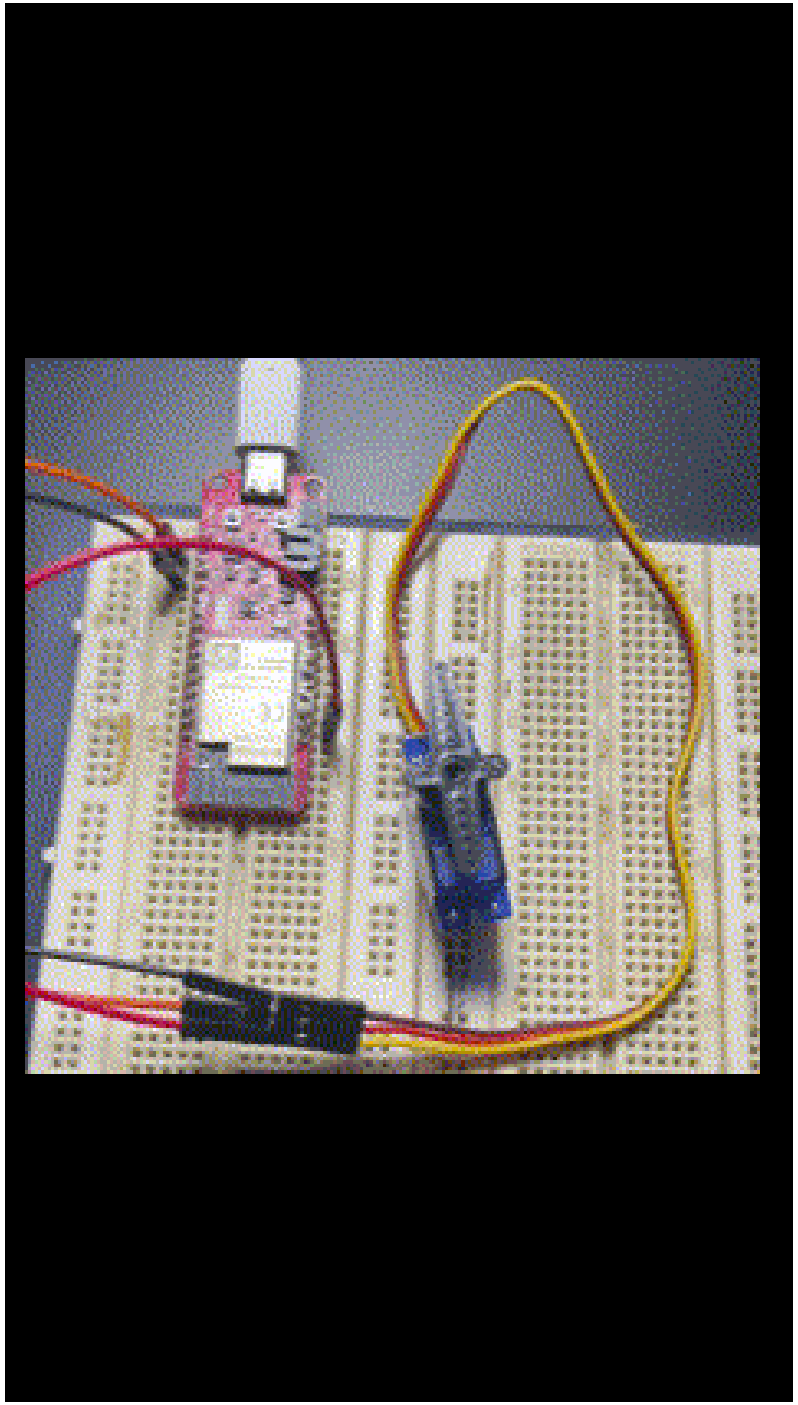
From 05/30/2023, 3:09 AM To 05/30/2023, 4:56 PM Update Clear

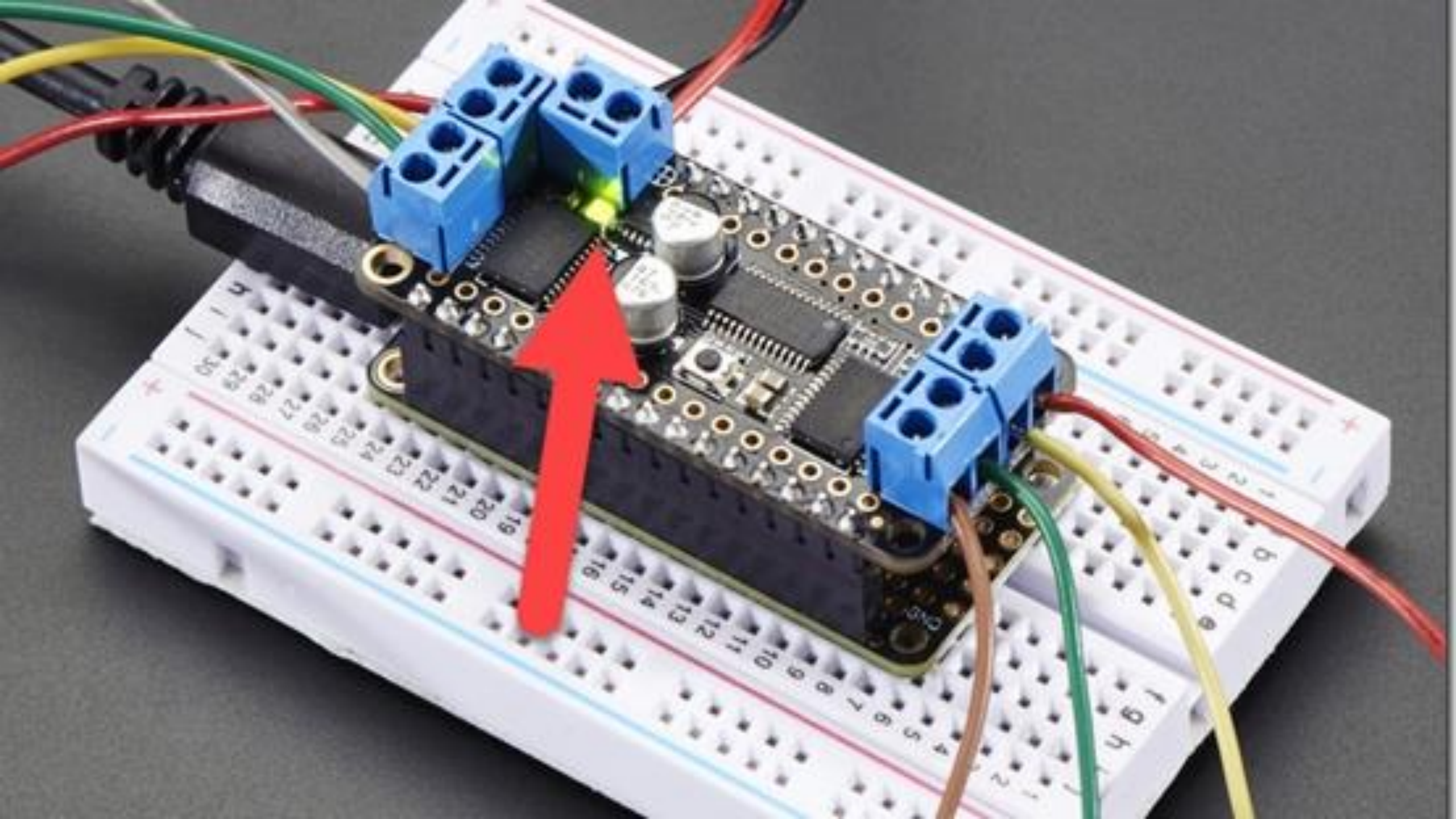
Prev First page 1 of 157 Next

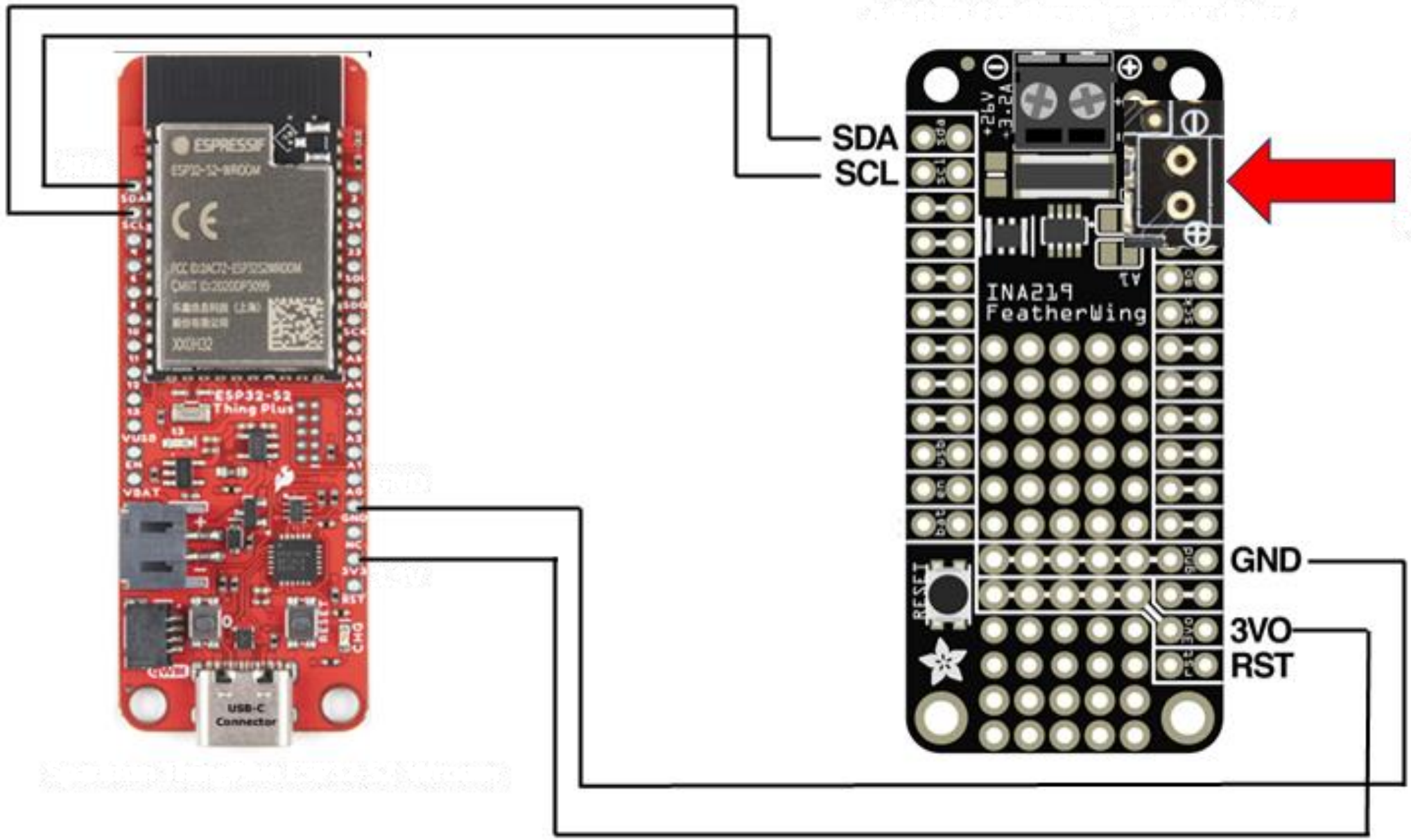
Created at	Value	Location	
2023/05/30 02:10:34PM	16.35		×
2023/05/30 02:10:29PM	16.35		×
2023/05/30 02:10:23PM	16.33		×
2023/05/30 02:10:18PM	16.33		×
2023/05/30 02:10:13PM	16.32		×

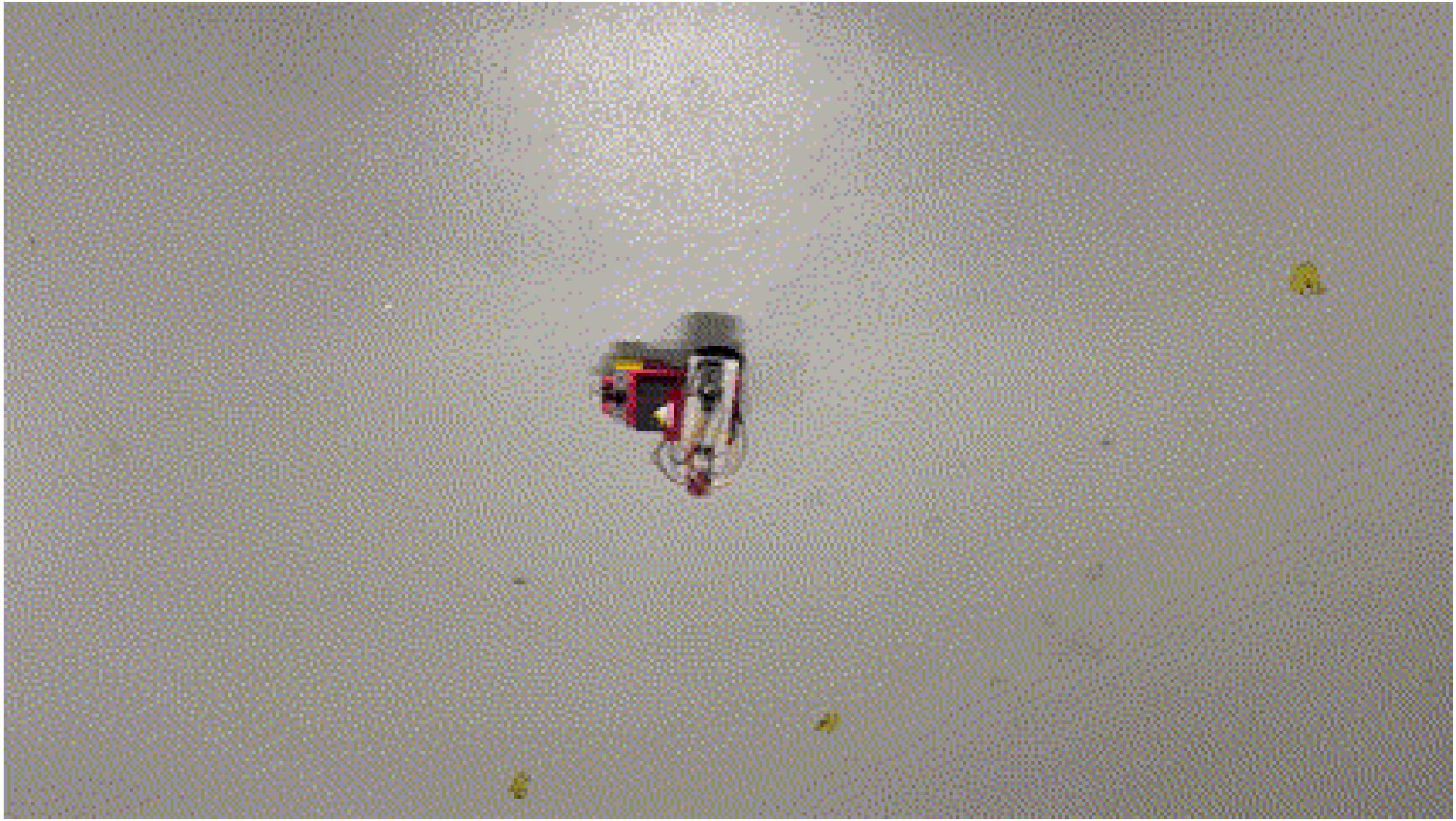

directorcia / Dashboards / Dashbo
Button

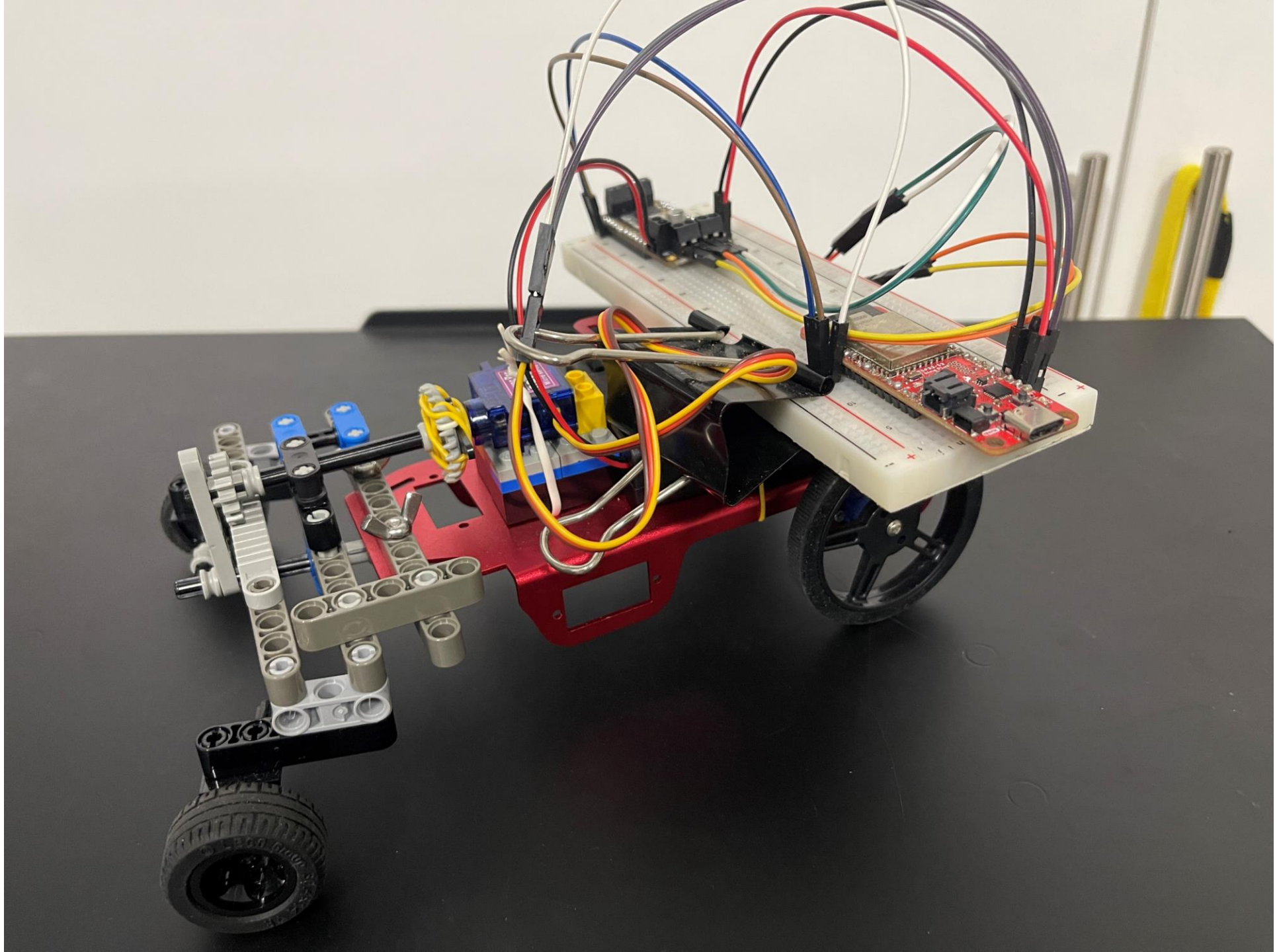

TowerPro Servo Motor - SG92R Micro
Tower Pro
SG92R
2
GND
3.3V
PWM Signal
Power (4.8 - 6V)
Ground
ESPRESSIF
ESP32-S2-WROOM
ESP32-S2
Thing Plus
USB-C
Connector

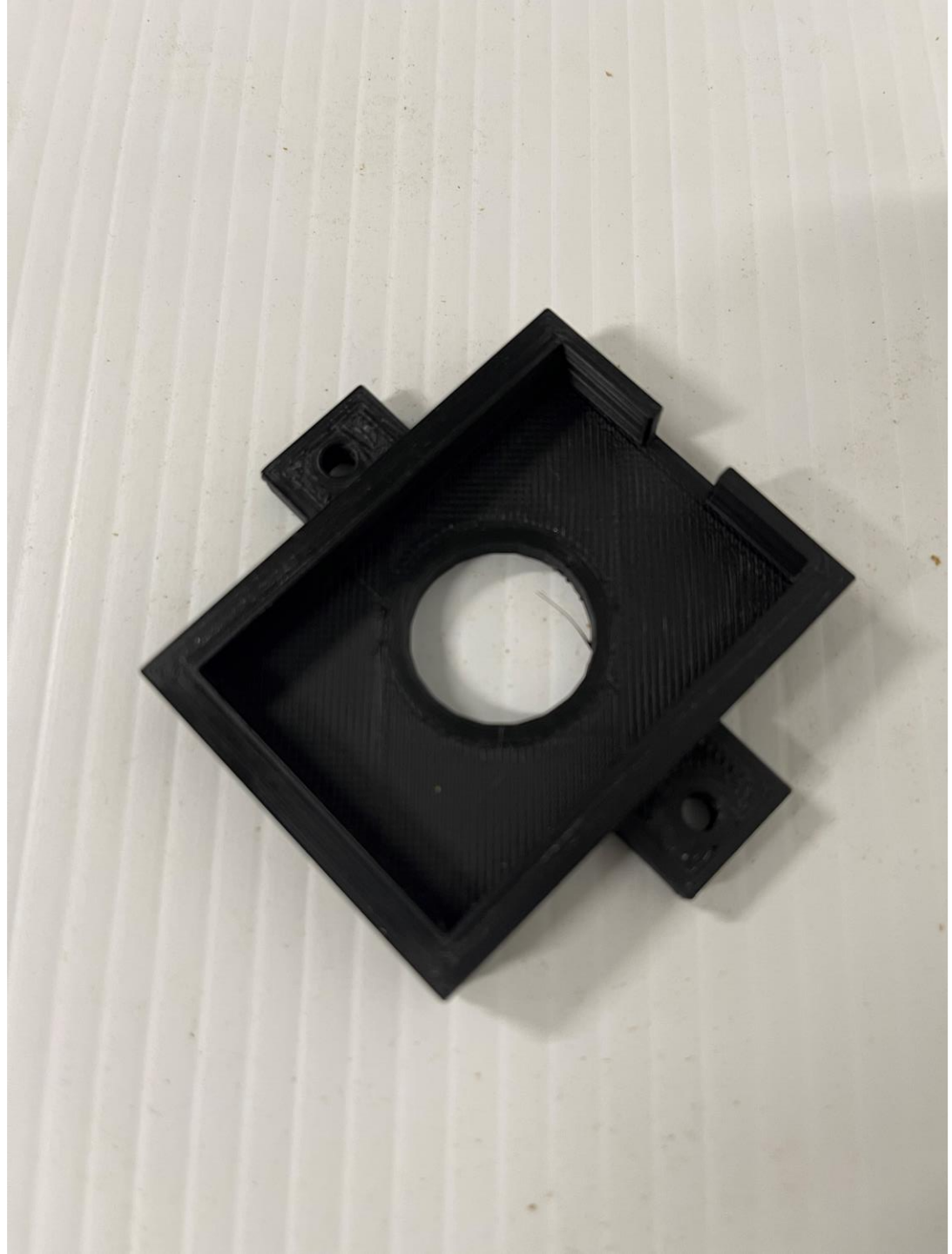


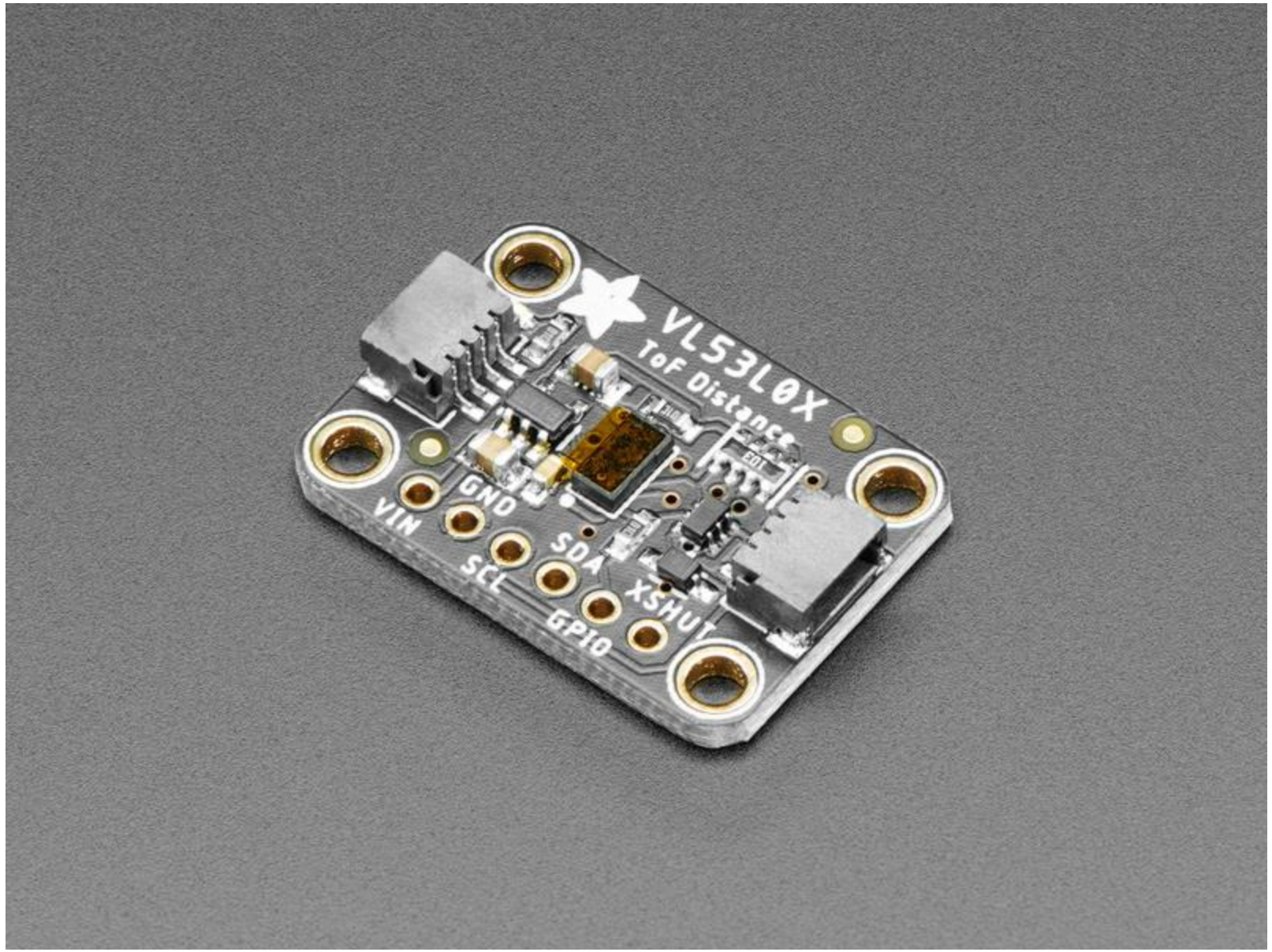


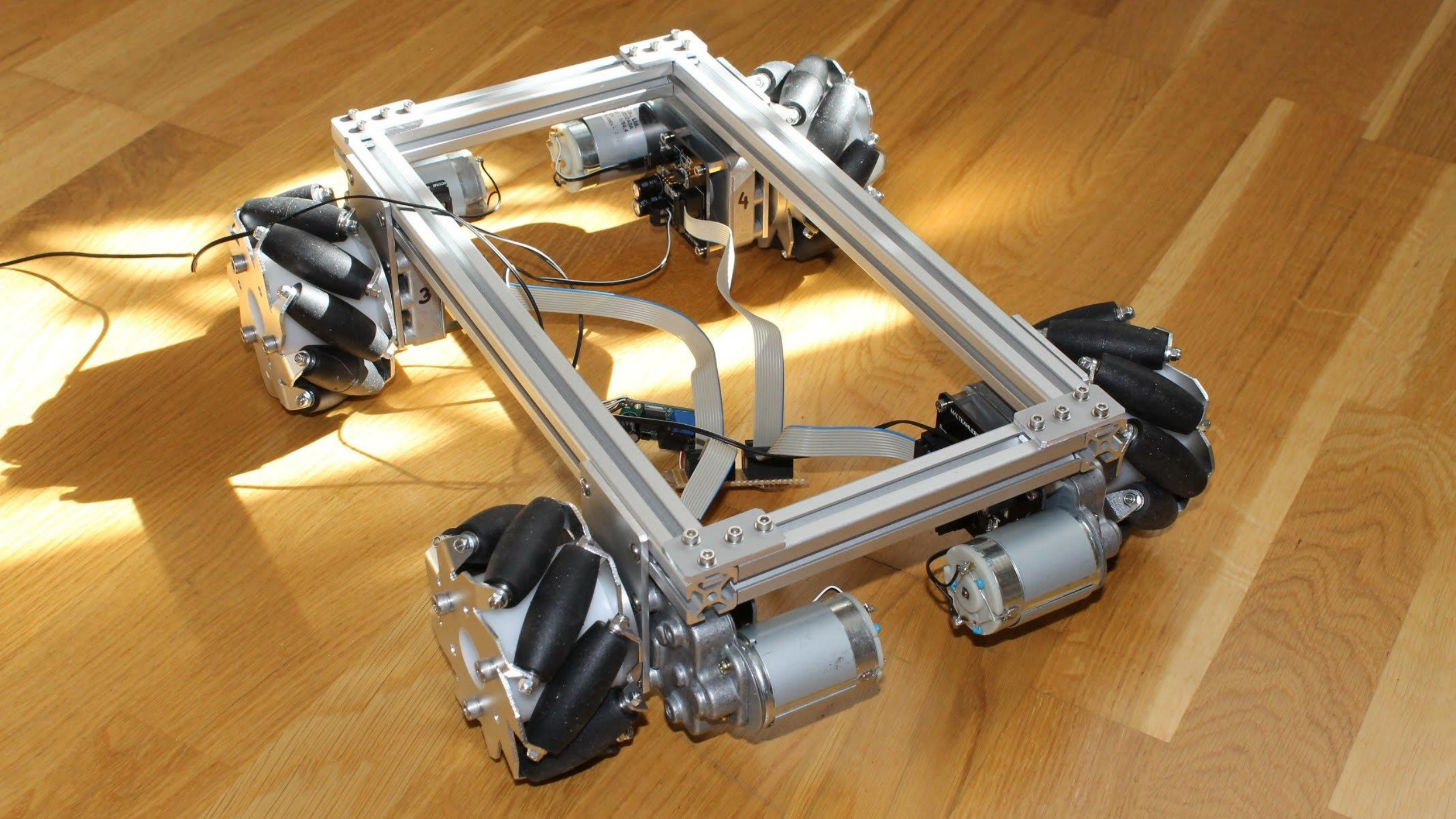

SDA
SCL
GND
3VO
RST
INA219
FeatherWing
ESP32-S2
Thing Plus
USB-C
Connector

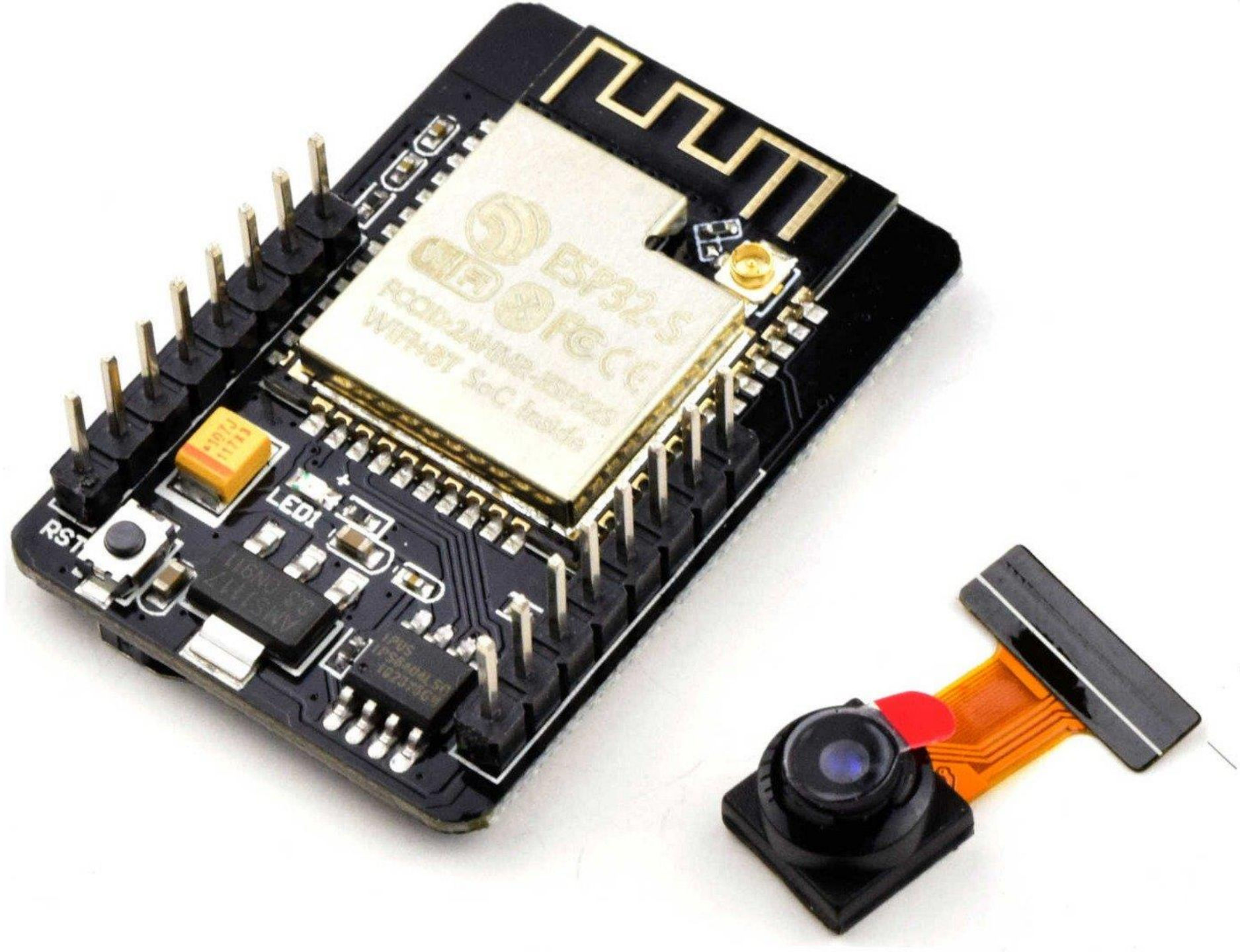







VL53L0X
ToF Distance
VIN
GND
SCL
SDA
GPIO
XSHUT


4
3


RST
LED1

SPARK

https://bit.ly/cia-hciot