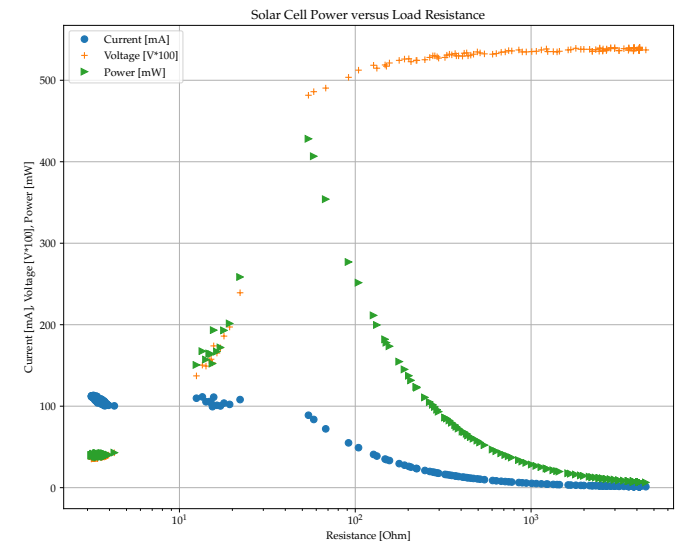
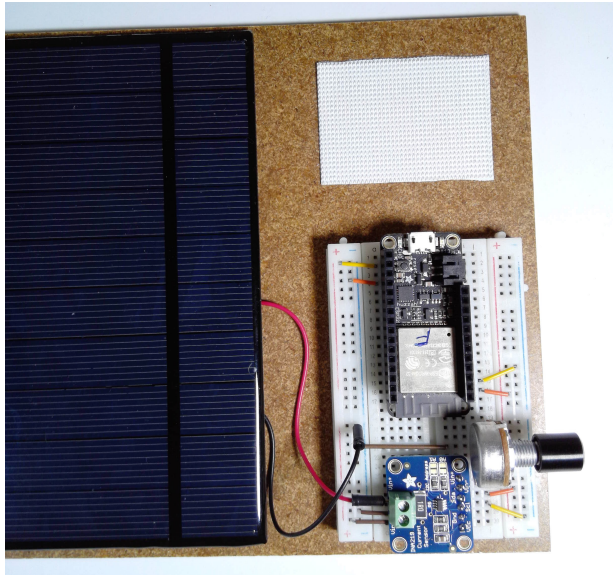


Electronics for IoT

Connecting to the Internet

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Missing Link



WiFi

- ESP32 has built-in WiFi radio
- Connects to any 2.4GHz wireless network
 - With WPA2 security
 - No security
 - Most “home” wifi routers work as well

Connect to WiFi

```
import network

wlan = network.WLAN(network.STA_IF)
wlan.active(True)
if wlan.isconnected(): return
print("Connecting to WLAN ... ", end="")
wlan.connect('SSID', pwd', 5000)
# wait for connection to be established ...
for _ in range(30):
    if wlan.isconnected(): break
    time.sleep_ms(200)
if not wlan.isconnected():
    print("Unable to connect to WiFi")
    wlan.disconnect()
    return
print("IP", wlan.ifconfig()[0])
```

Fetch Internet Time

```
import machine

rtc = machine.RTC()
rtc.ntp_sync(server="pool.ntp.org")
for _ in range(100):
    if rtc.synced(): break
    time.sleep_ms(100)
if rtc.synced():
    print(time.strftime("%c", time.localtime()))
else:
    print("Unable to get ntp time")
```

Automatically Connect to Internet

- Copy code to ESP32
 - File `/flash/boot.py` executed
 - On power up
 - After pressing reset button