

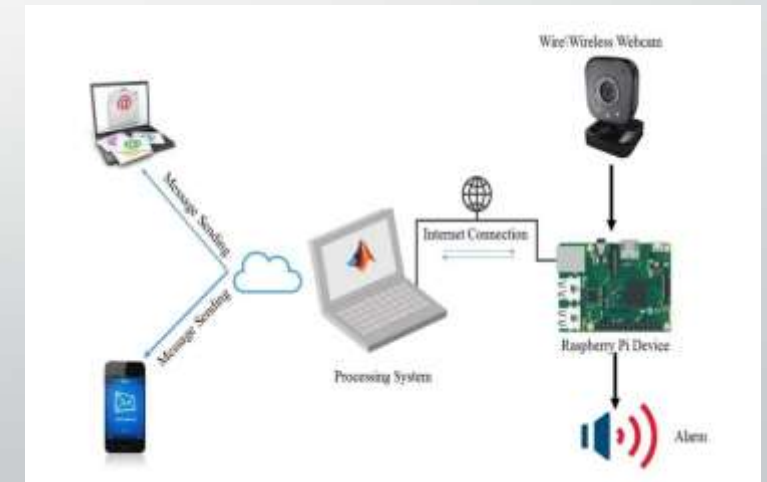
The Education University of Hong Kong 2021-2022 Quality Education Fund Thematic Network – Tertiary Institutes STEM Project Team

SCHOOL: YING WA GIRLS' SCHOOL (S1)

TOPIC: WORKSHOP 2 - ESP₃₂-CAM AS IOT
RECORDING TOOL

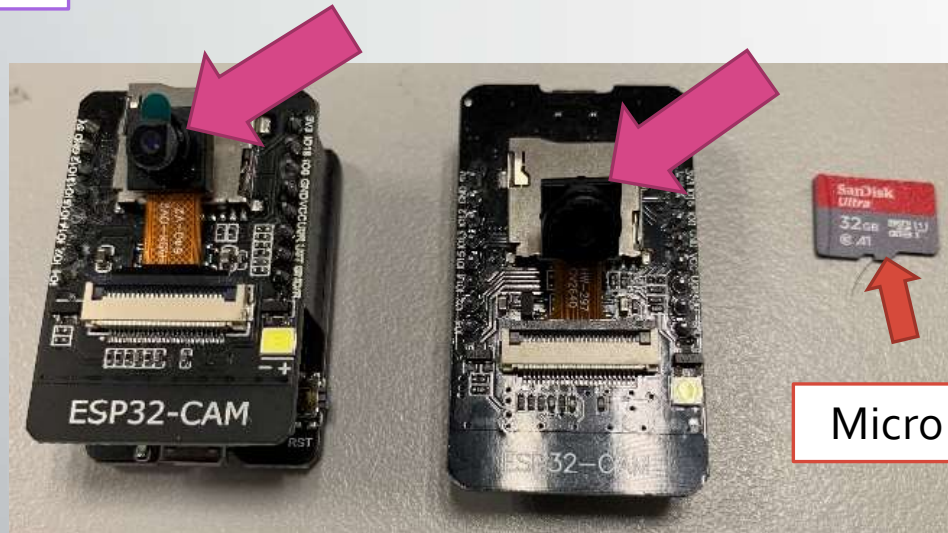
IOT Video Recording

- MIT App Inventor
- ESP32-CAM
- Raspberry Pi



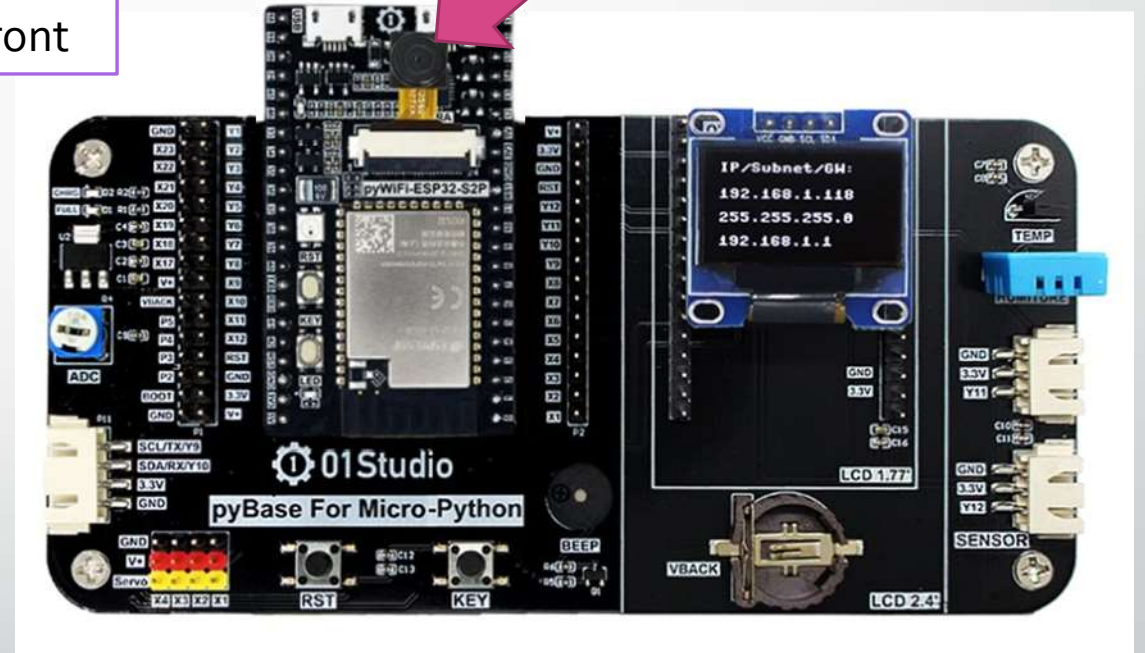
ESP32-CAM

Front



ESP32-CAM

Front



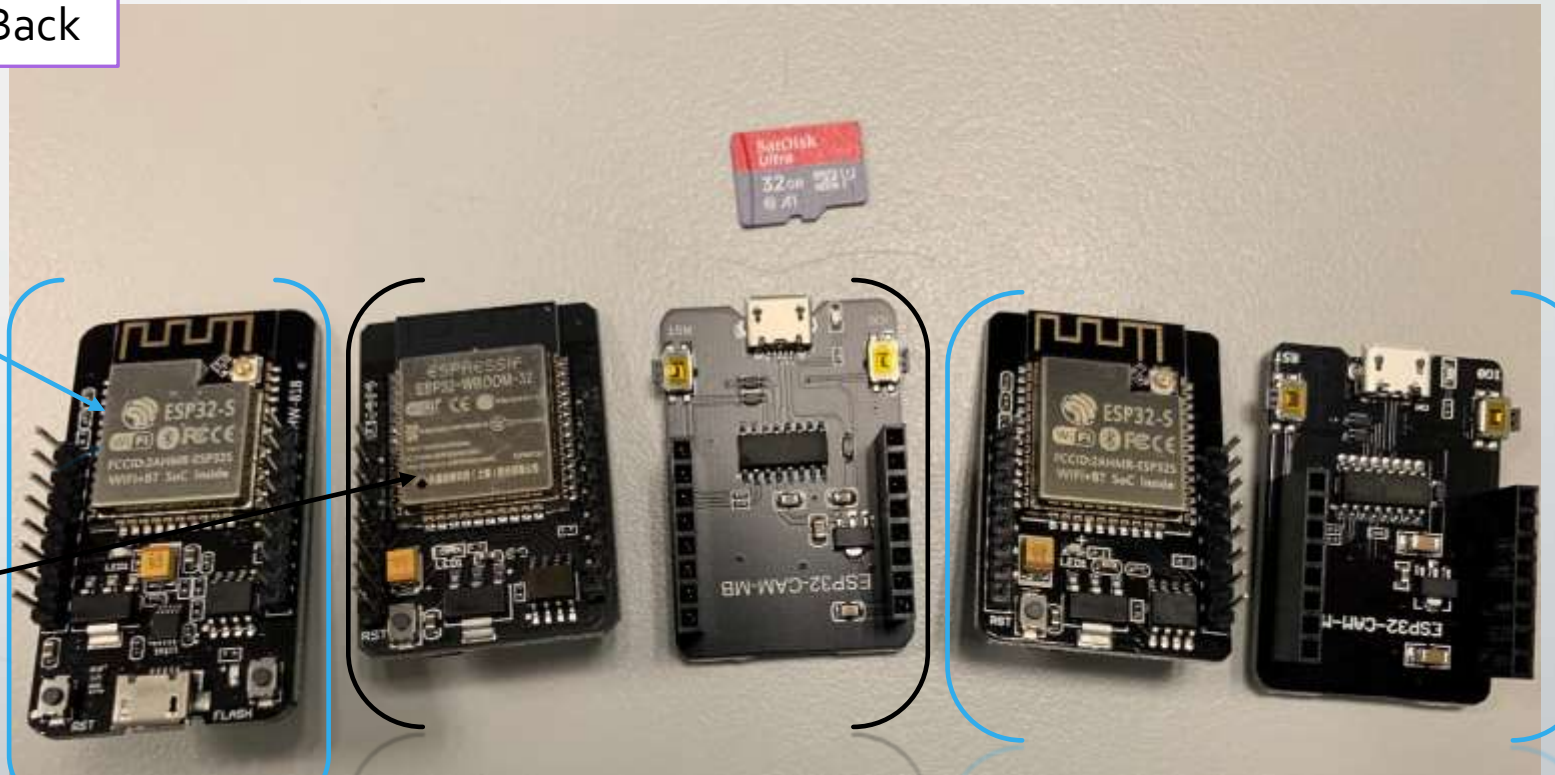
ESP32-CAM(Python)

ESP32-CAM

ESP32-S



Back



ESP32-
WROOM-32



ESP32-CAM

Arduino IDE

- CameraWebServer
- CameraWebServer + TimeLapse
- TimeLapse



CH340 USB Driver

Google search results for "ch340 usb driver".

約 1,120,000 項搜尋結果 (0.59 秒)

提示：只顯示漸漸繁體中文搜尋結果。你可以在 使用偏好 中指定搜尋語言。

<https://sparks.gogo.co.nz/ch340> • 翻譯繁體網頁

CH340 Drivers for Windows, Mac and Linux - Gogo:Tronics

CH340 Drivers for Windows, Mac and Linux. The CH340 chip is used by a number of Arduino compatible boards to provide USB connectivity, you may need to ...

位於 21年11月25日 協助繁體網頁。

<http://www.wch.cn/download> • 轉為繁體網頁

CH341SER.EXE - 南京沁恒微电子有限公司

CH340/CH341USB转串口WINDOWS驱动程序。支持32/64位Windows 11/10/8. 1/8/7/VISTA/XP。SERVER 2019/2016/2012/2008/2003。2000/ME/98。通过微数字...

<https://learn.sparkfun.com/tutorials/all> • 翻譯繁體網頁

How to Install CH340 Drivers - Sparkfun Learn

However, there is a wide range of operating systems out there. You may need to install drivers the first time you connect the chip to your computer's USB port ...

2019年8月13日 · 上傳者: SparkFun Electronics

Introduction Meet the CH340 · Windows 7/10 · Mac OSX

Gogo:Tronics Hobby Electronic Parts

Home Electronic Components Online Shop Tools, Docs, Downloads Shipping & Payment Info Contact

COVID-19 Update: Aucklanders should allow up to 5 extra days before worrying. Australia add an extra 7 days on the estimate. United States, Canada, New Caledonia, Samoa, Fiji, French Polynesia, Cook Islands and the rest of the South Pacific, add an extra 10 days on the estimate.

The CH340 chip is used by a number of Arduino compatible boards to provide USB connectivity, you may need to install a driver, don't panic, it's easier than falling off a log, and much less painful.

Windows
(Manufacturer's Chinese Info Link)

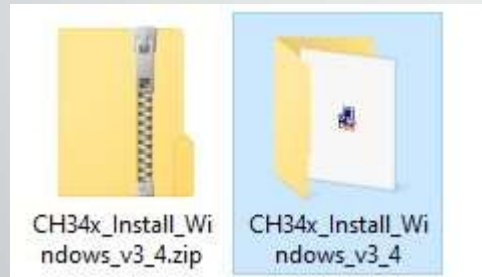
- Download the Windows CH340 Driver
- Unzip the file
- Run the installer which you unzipped
- In the Arduino IDE when the CH340 is connected you will see a COM Port in the Tools > Serial Port menu, the COM number for your device may vary depending on your system.

Older Windows Driver Version and Instructions

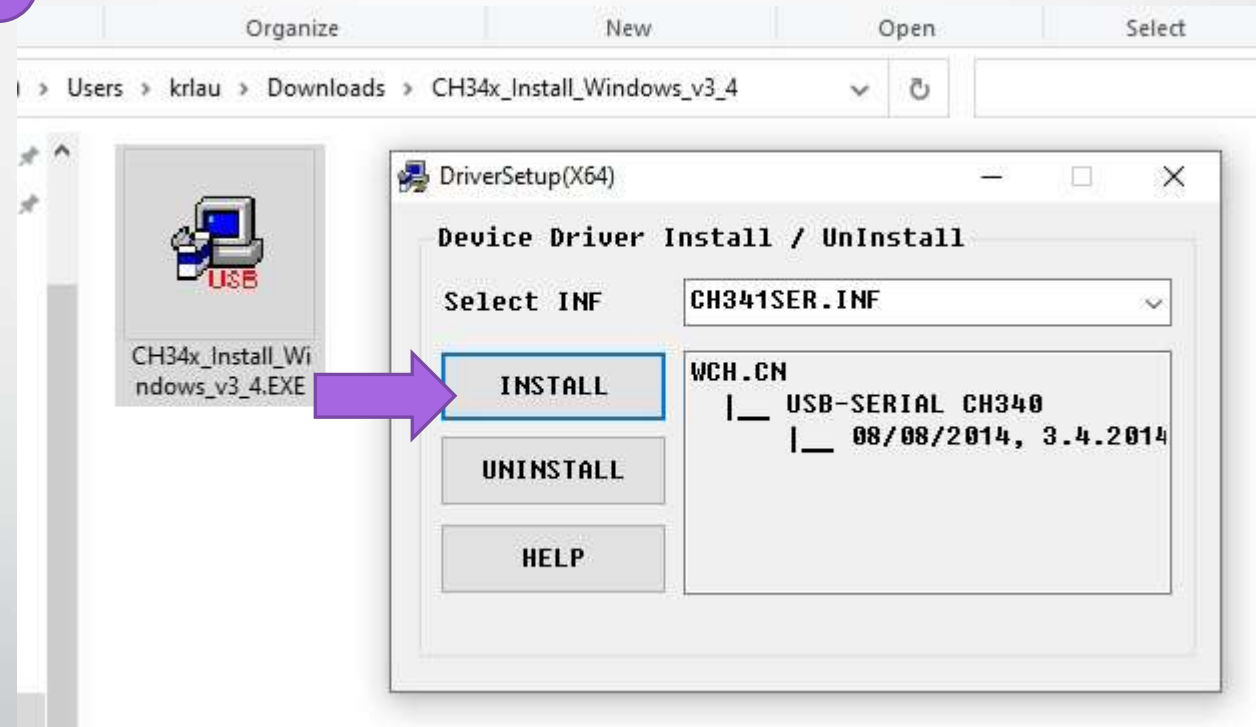
- Download the Windows CH340 Driver
- Unzip the folder
- If you are running a 64bit Windows: —run the SETUP_64.EXE installer.
- If you are running a 32bit Windows: —run the SETUP_32.EXE installer.

CH340 USB Driver Installation

1

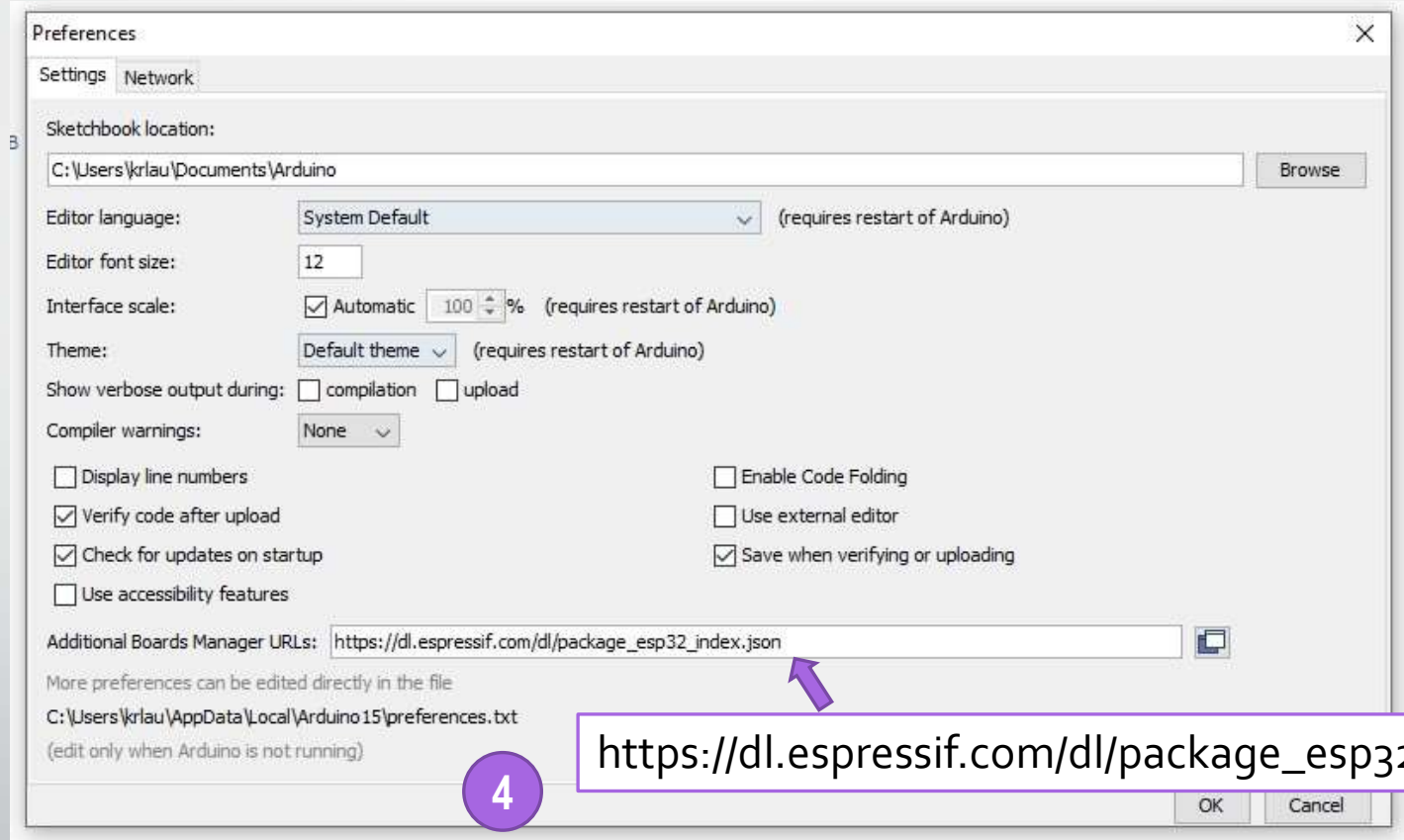
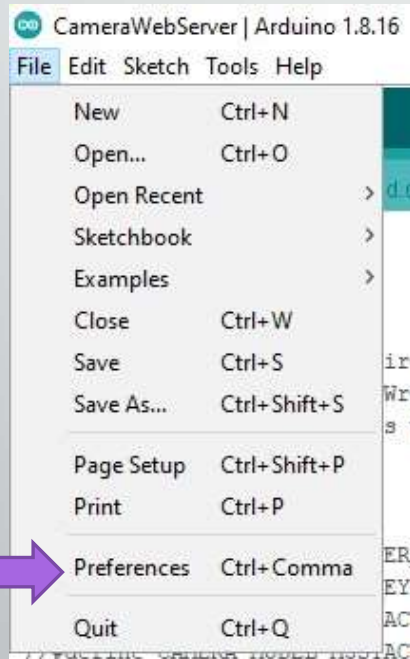


2

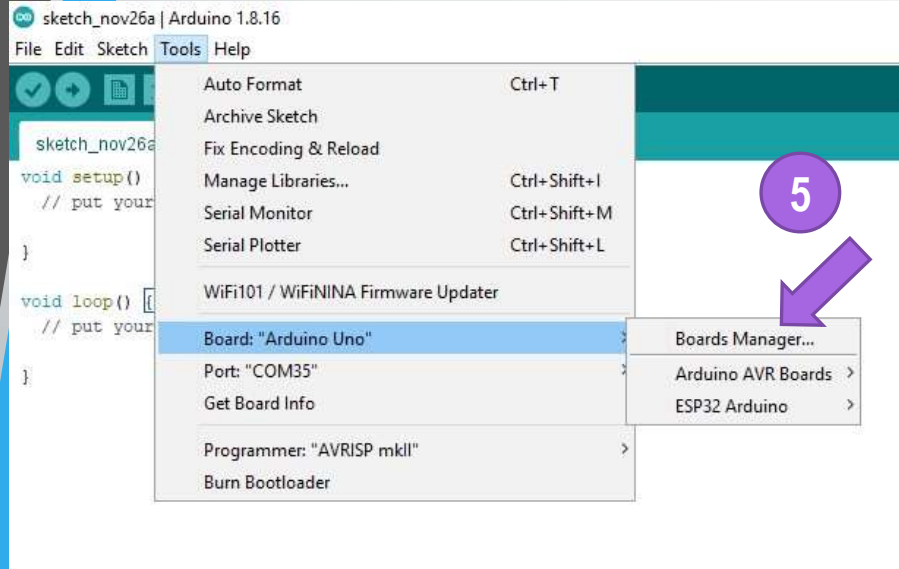


ESP32 – Development Environment

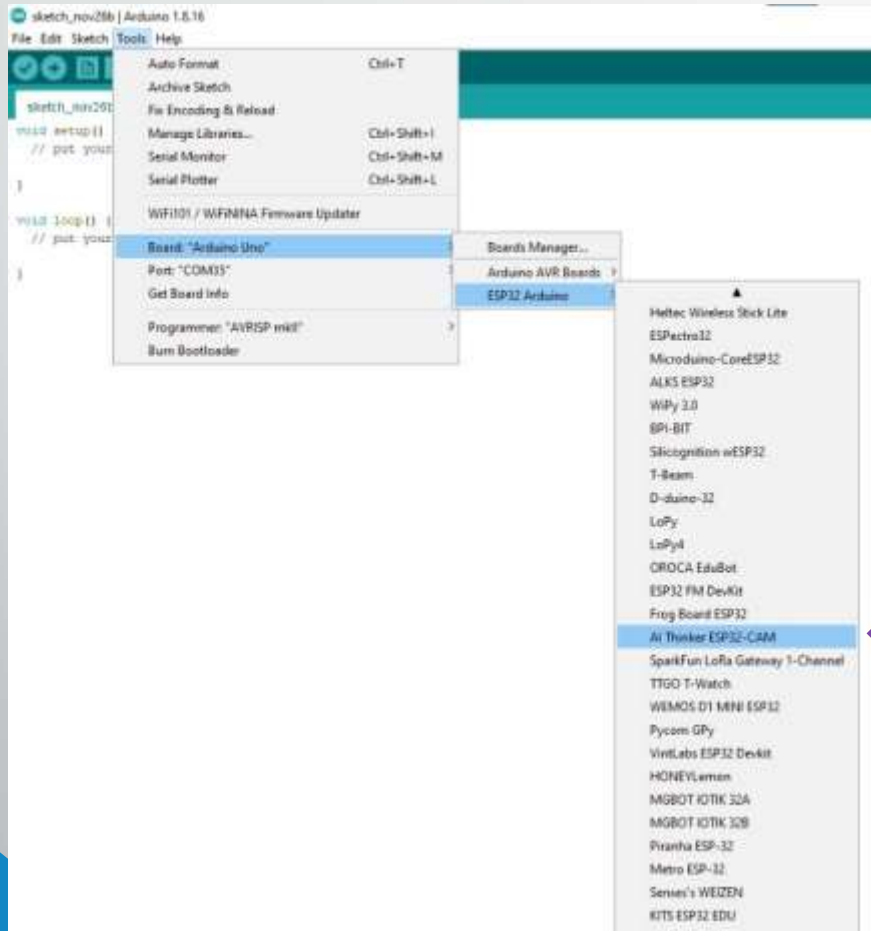
>Preferences



ESP32 – Development Environment Boards Manager



ESP32-CAM Boards Manager(2)

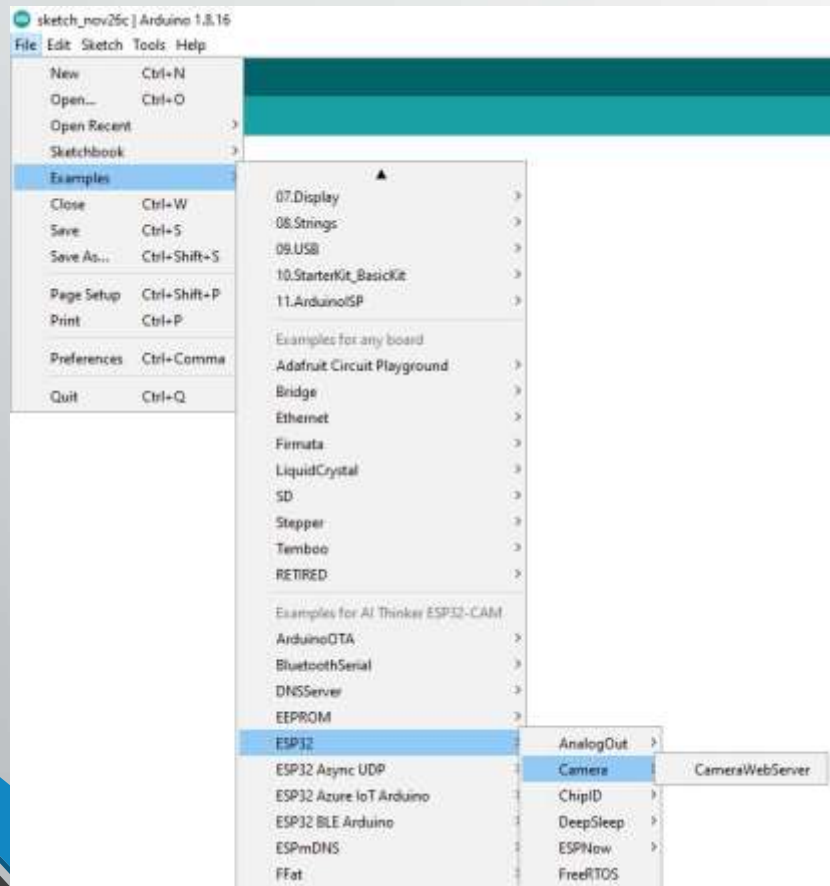


Tools>Board: "Arduino Uno" > ESP32 Arduino
> AI Thinker ESP32-CAM

7

AI Thinker ESP32-CAM

ESP32-CAM Code



File>Examples>ESP32>Camera>CameraWebServer

8

CameraWebServer

CameraWebServer | Arduino 1.8.16
File Edit Sketch Tools Help

```
CameraWebServer app_httpd.cpp camera_index.h camera_pins.h
#include "esp_camera.h"
#include <WiFi.h>

//
// WARNING!!! PSRAM IC required for UXGA resolution and high JPEG quality
//           Ensure ESP32 Wrover Module or other board with PSRAM is selected
//           Partial images will be transmitted if image exceeds buffer size
//
// Select camera model
// #define CAMERA_MODEL_WROVER_KIT // Has PSRAM
// #define CAMERA_MODEL_ESP_EYE // Has PSRAM
// #define CAMERA_MODEL_M5STACK_PSRAM // Has PSRAM
// #define CAMERA_MODEL_M5STACK_V2_PSRAM // M5Camera version B Has PSRAM
// #define CAMERA_MODEL_M5STACK_WIDE // Has PSRAM
// #define CAMERA_MODEL_M5STACK_ESP32CAM // No PSRAM
// #define CAMERA_MODEL_M5STACK_UNITCAM // No PSRAM
#define CAMERA_MODEL_AI_THINKER // Has PSRAM
// #define CAMERA_MODEL_TTGO_T_JOURNAL // No PSRAM

#include "camera_pins.h"

const char* ssid = "Mi";
const char* password = "36913691";

// const char* ssid = "IoT";
// const char* password = "eduhk+IoT+2018";

void startCameraServer();

void setup() {
  Serial.begin(115200);
  Serial.setDebugOutput(true);
  Serial.println();

  camera_config_t config;
  config.ledc_channel = LEDC_CHANNEL_0;
  config.ledc_timer = LEDC_TIMER_0;
  config.pin_d0 = Y2_GPIO_NUM;
  config.pin_d1 = Y3_GPIO_NUM;
  config.pin_d2 = Y4_GPIO_NUM;
  config.pin_d3 = Y5_GPIO_NUM;
  config.pin_d4 = Y6_GPIO_NUM;
  config.pin_d5 = Y7_GPIO_NUM;
  config.pin_d6 = Y8_GPIO_NUM;
  config.pin_d7 = Y9_GPIO_NUM;
```

Library Code/ Camera mode

9

```
// Select camera model
// #define CAMERA_MODEL_WROVER_KIT // Has PSRAM
// #define CAMERA_MODEL_ESP_EYE // Has PSRAM
// #define CAMERA_MODEL_M5STACK_PSRAM // Has PSRAM
// #define CAMERA_MODEL_M5STACK_V2_PSRAM // M5Camera version B Has PSRAM
// #define CAMERA_MODEL_M5STACK_WIDE // Has PSRAM
// #define CAMERA_MODEL_M5STACK_ESP32CAM // No PSRAM
// #define CAMERA_MODEL_M5STACK_UNITCAM // No PSRAM
#define CAMERA_MODEL_AI_THINKER // Has PSRAM
// #define CAMERA_MODEL_TTGO_T_JOURNAL // No PSRAM
```

CAMERA_MODEL_AI_THINKER

// = Comment

CameraWebServer | Arduino 1.8.16

File Edit Sketch Tools Help

```
CameraWebServer  app_httpd.cpp  camera_index.h  camera_pins.h

#include "esp_camera.h"
#include <WiFi.h>

//
// WARNING!!! PSRAM IC required for UXGA resolution and high JPEG quality
//           Ensure ESP32 Wrover Module or other board with PSRAM is selected
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const char* ssid = "Mi";
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// const char* password = "eduhk+IoT+2018";

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  config.ledc_timer = LEDC_TIMER_0;
  config.pin_d0 = Y2_GPIO_NUM;
  config.pin_d1 = Y3_GPIO_NUM;
  config.pin_d2 = Y4_GPIO_NUM;
  config.pin_d3 = Y5_GPIO_NUM;
  config.pin_d4 = Y6_GPIO_NUM;
  config.pin_d5 = Y7_GPIO_NUM;
  config.pin_d6 = Y8_GPIO_NUM;
  config.pin_d7 = Y9_GPIO_NUM;
```

Wifi Code

10

```
#include "camera_pins.h"

const char* ssid = "Mi";
const char* password = "36913691";

// const char* ssid = "IoT";
// const char* password = "eduhk+IoT+2018";
```

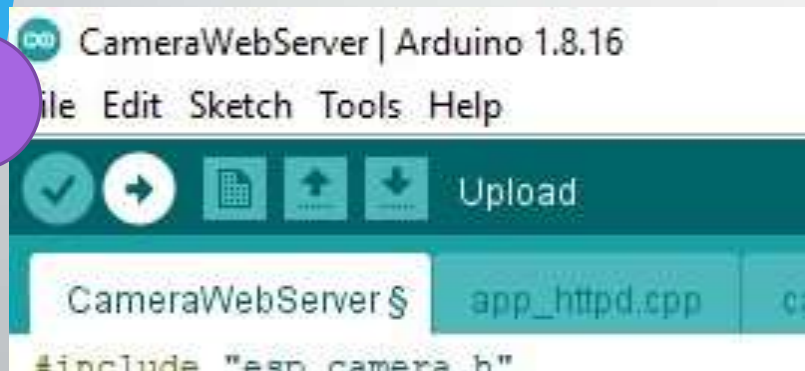
Wifi Requirement: 2.4GHz, WPA-Personal

Upload Code

11



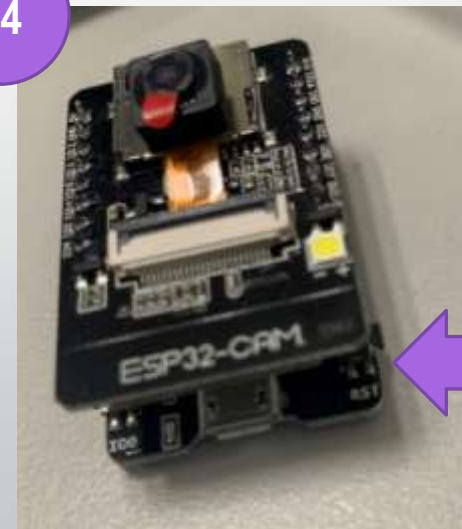
12



13



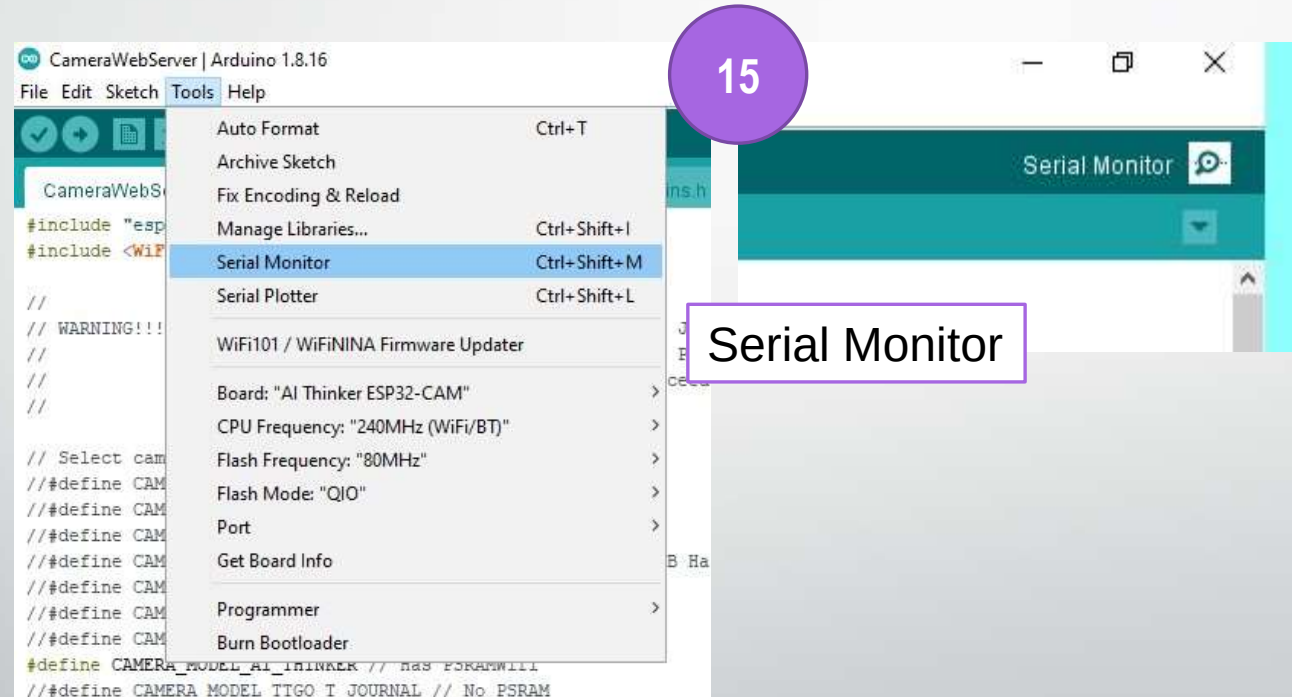
14



Press RST



Serial Monitor



IP Address

16

```
COM35
11:26:52.717 ->
11:26:52.717 -> rst:0x1 (POWERON_RESET),boot:0x12 (SPI_FAST_FLASH_BOOT)
11:26:52.717 -> configspi: 0, SPIWP:0xee
11:26:52.717 -> clk_drv:0x00,q_drv:0x00,d_drv:0x00,cs0_drv:0x00,hd_drv:0x00,wp_drv:0x00
11:26:52.717 -> mode:DIO, clock div:1
11:26:52.717 -> load:0x3fff0018,len:4
11:26:52.717 -> load:0x3fff001c,len:1216
11:26:52.717 -> ho 0 tail 12 room 4
11:26:52.717 -> load:0x40078000,len:10944
11:26:52.717 -> load:0x40080400,len:6388
11:26:52.717 -> entry 0x400806b4
11:26:53.845 ->
11:26:55.198 -> .....
11:26:57.207 -> WiFi connected
11:26:57.207 -> Camera Ready! Use 'http://10.0.2.10' to connect

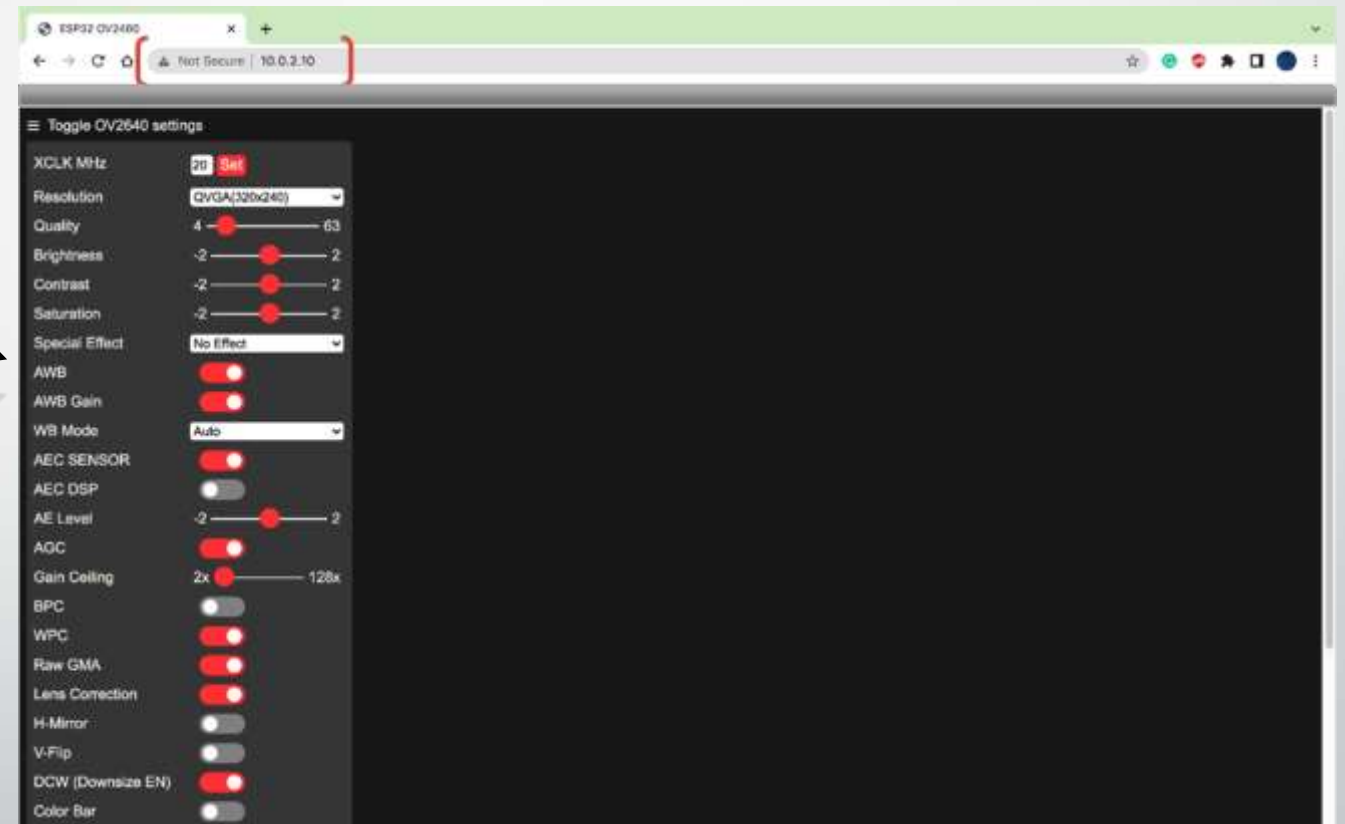
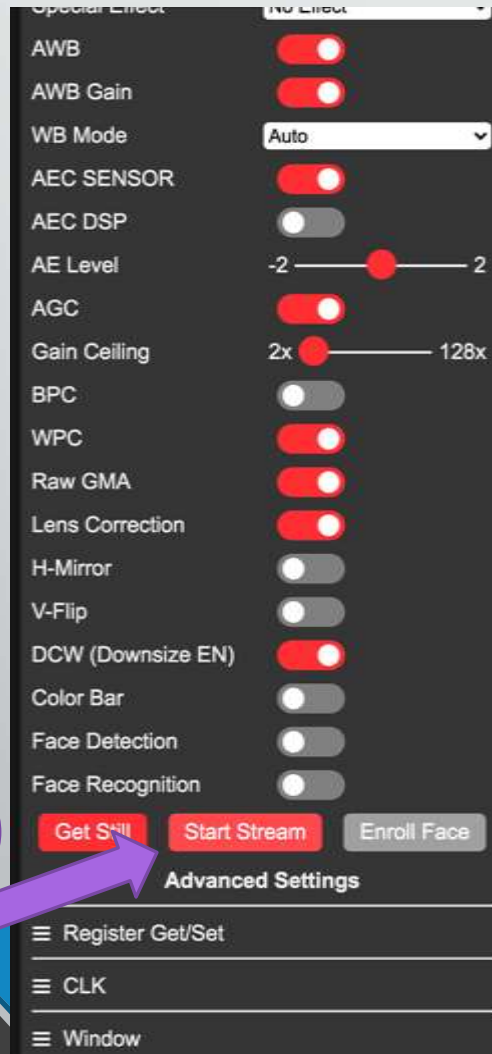
[Autoscroll] [Show timestamp] [Newline] [115200 baud] [Clear output]

// #define CAMERA_MODEL_M5STACK_ESP32CAM // No PSRAM
// #define CAMERA_MODEL_M5STACK_UNITCAM // No PSRAM
```

-> Wifi connected
-> Camera Ready! Use '<http://10.0.2.10>' to connect

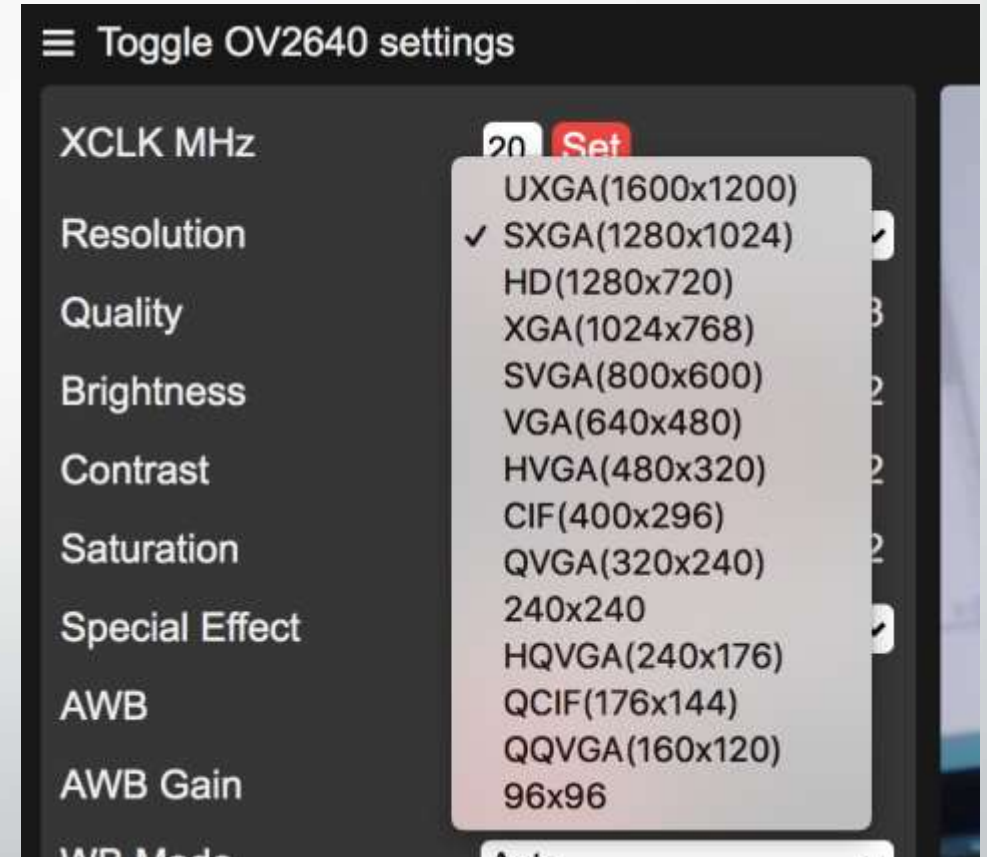
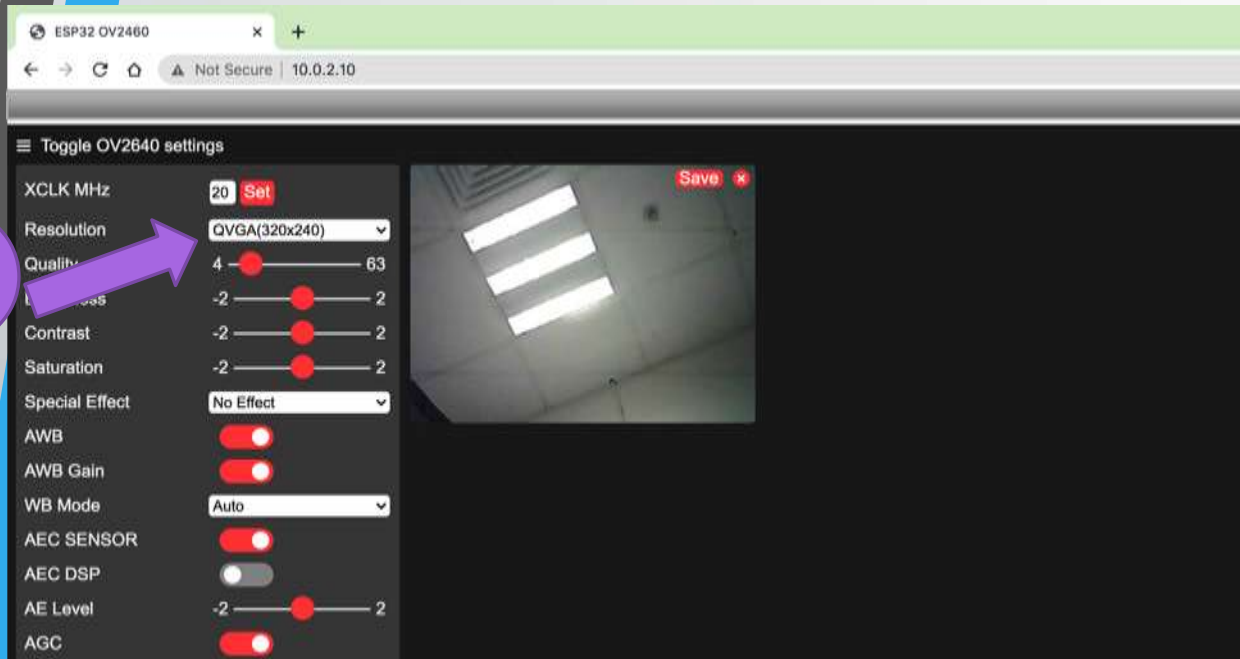
Remember to use same network for
ESP32-CAM & Web Browser

Start Stream

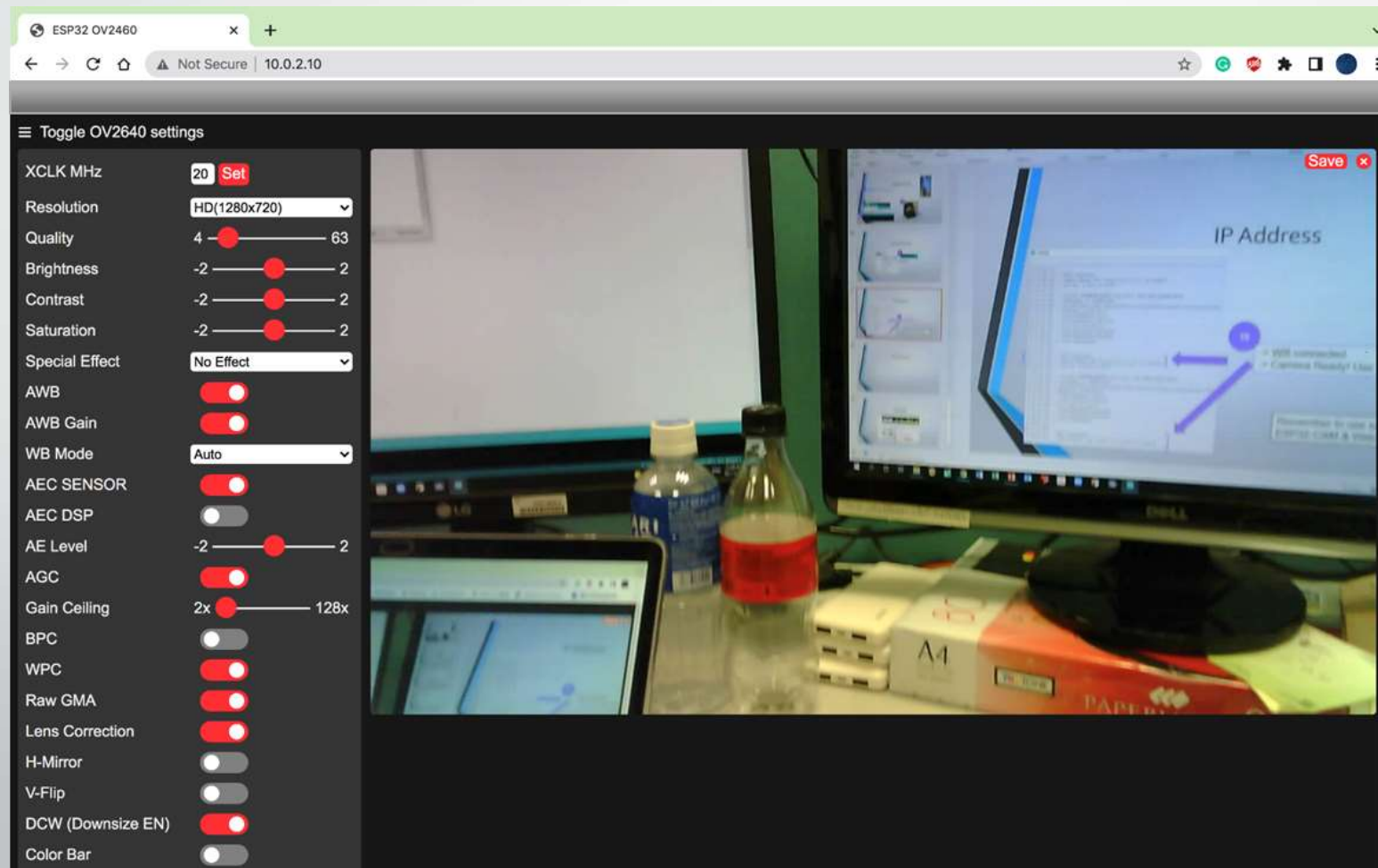


Resolution

18



Web Browser



Export (IoT)



More about OV2640



仁恒专业生产摄像头

所有分类 首页

OV2640摄像头模组 线长40MM 支持YUV RGB JPEG 32单片机摄像头

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仁恒光电 摄像头模组生产厂家 交货及时 品质稳定 13537658497

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颜色分类 

数量 件(库存3312件)

立即购买 加入购物车

支付  AlipayHK  Credit/Debit card  支持港币支付

Materials List

- JOANLAB塑料刻度移液管 一次性血清移液管 (10ml)
~HKD 2
- RGB灯燈帶:彩色LED燈帶Neopixel WS2812B Micro:Bit
~HKD 34
- 水草 (羅漢西)(學名: Hornwort of *Ceratophyllum demersum*)
~HKD 10 /bunch
- Sodium Hydrogen Carbonate
~HKD 15 /500g
- ESP32-CAM
~HKD 35

