



EDDI

Electronic Design
Development Institute

에디로봇아카데미

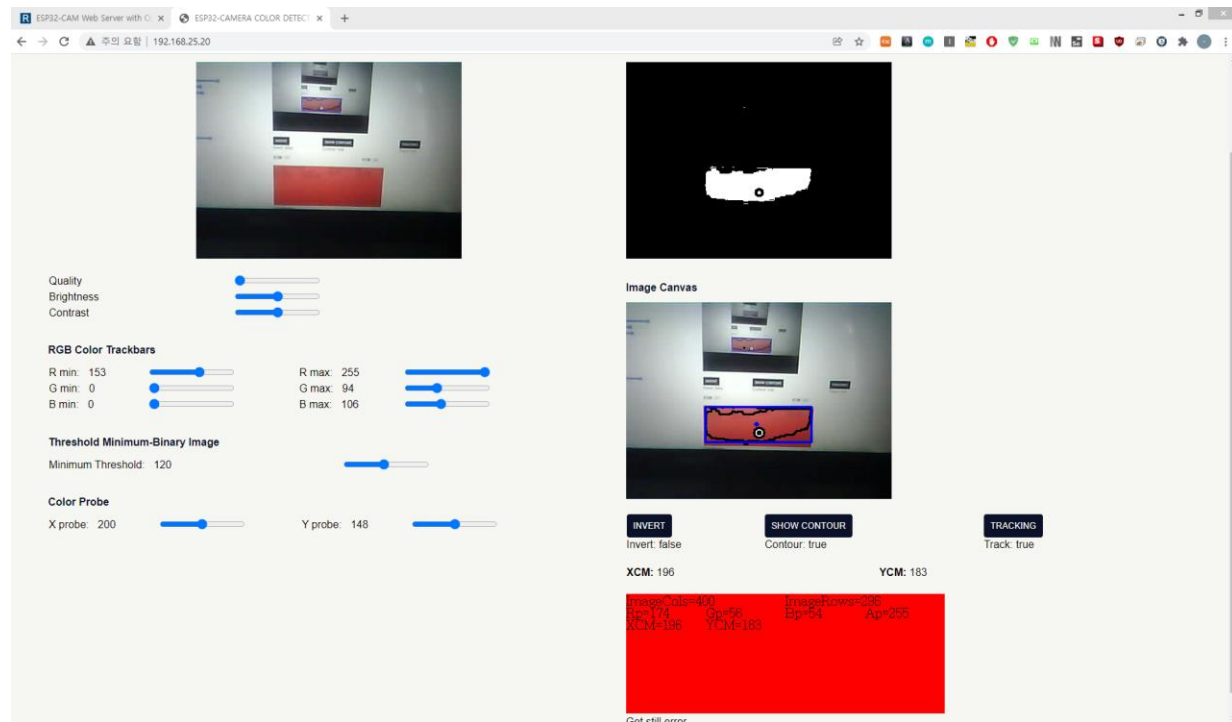
임베디드 마스터 Lv2 과정

제 1기

2021. 12. 24

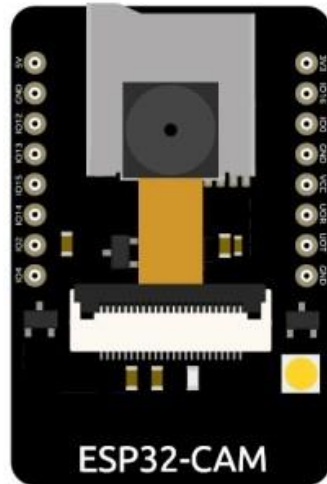
김태훈

ESP32 CAM + OpenCV.js



결과물

ESP32 CAM + OpenCV.js



Video Streaming

(x, y) coordinates

ESP32-CAM Color Detection and Tracking

COLOR DETECTION **RESET BOARD**

Video Streaming

Image Mask

Image Canvas

Quality:
Brightness:
Contrast:

RGB Color Trackbars

R min: 51 R max: 66
G min: 61 G max: 104
B min: 119 B max: 236

Threshold Minimum-Binary Image

Minimum Threshold: 121

Color Probe

X probe: 210 Y probe: 240

INVERT Invert: false
SHOW CONTOUR Contour: true
TRACKING Track: true

XCM: 252 **YCM: 232**

ESP32 CAM + OpenCV.js

```
/******start contours******/
//ANN:10
if(b_tracker == true){
  try{
    if(b_invert==false){
      //ANN:11
      cv.findContours(mask,contours,hierarchy,cv.RETR_CCOMP,cv.CHAIN_APPROX_SIMPLE);
      //findContours(source image, array of contours found, hierarchy of contours
      // if contours are inside other contours, method of contour data retrieval,
      //algorithm method)
    }
    else{
      cv.findContours(mask2, contours, hierarchy, cv.RETR_CCOMP, cv.CHAIN_APPROX_SIMPLE);
    }
    console.log("CONTOUR_SIZE = " + contours.size());

    //draw contours
    if(b_contour==true){
      for(let i = 0; i < contours.size(); i++){
        cv.drawContours(src, contours, i, [0, 0, 255], 2, cv.LINE_8, hierarchy, 100)
      }
    }

    //ANN:12
    let cnt;
    let Moments;
    let M00;
    let M10;
    //let x_cm;
    //let y_cm;

    //ANN:13
    for(let k = 0; k < contours.size(); k++){
      cnt = contours.get(k);
      Moments = cv.moments(cnt, false);
      M00Array[k] = Moments.m00;
      // cnt.delete();
    }

    //ANN13A
    let max_area_arg = MaxAreaArg(M00Array);
    console.log("MAXAREAARG = "+max_area_arg);

    //let TestArray = [0,0,0,15,4,15,2];
```

이후 할 일 1. 코드 구조 파악하기

ESP32 CAM + OpenCV.js



2. Moving Target 구매 및 Target 인식 후 좌표 전송 Test

좌우로 움직이는 무빙액선타겟 / 자동점수판 / 오토리셋