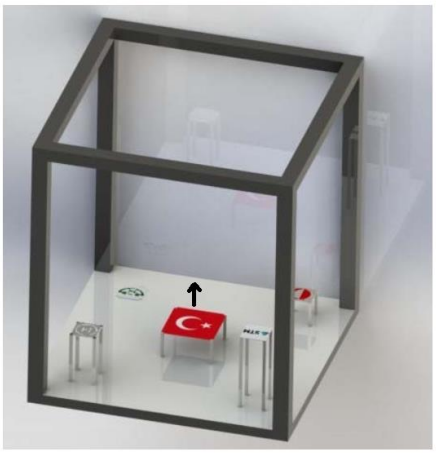
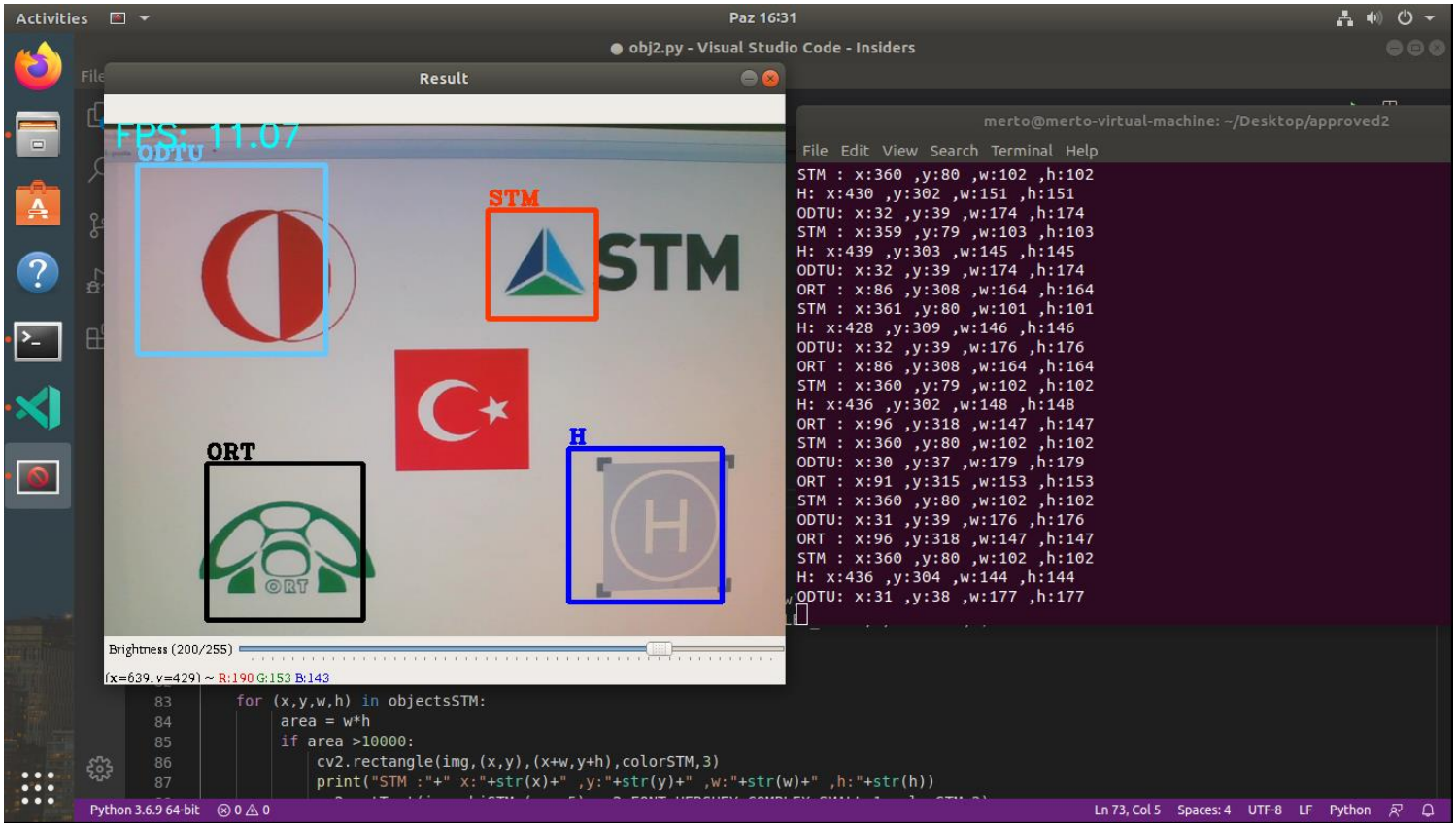
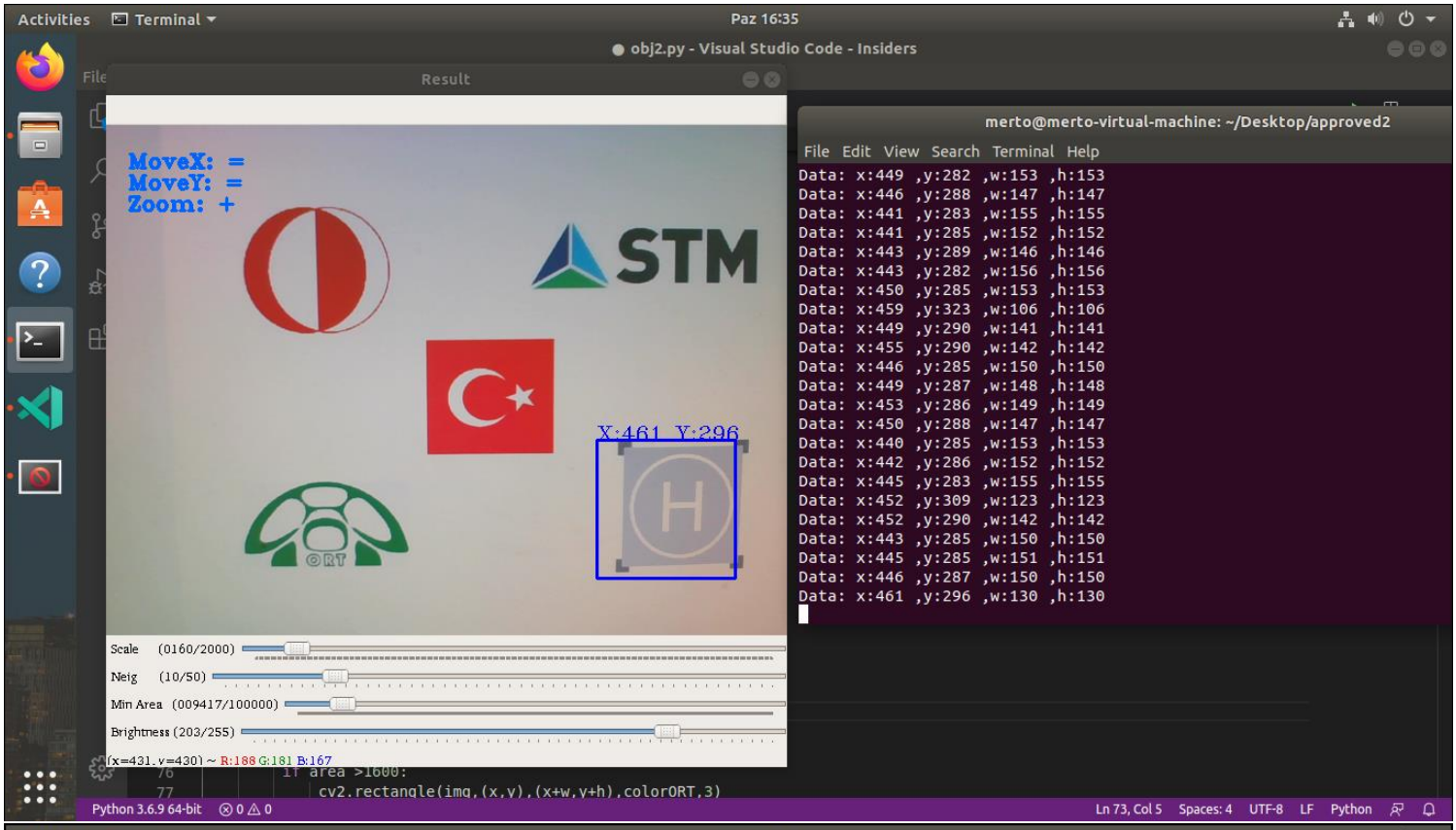
17.ULUSLARARASI ODTÜ ROBOT GÜNLERİ

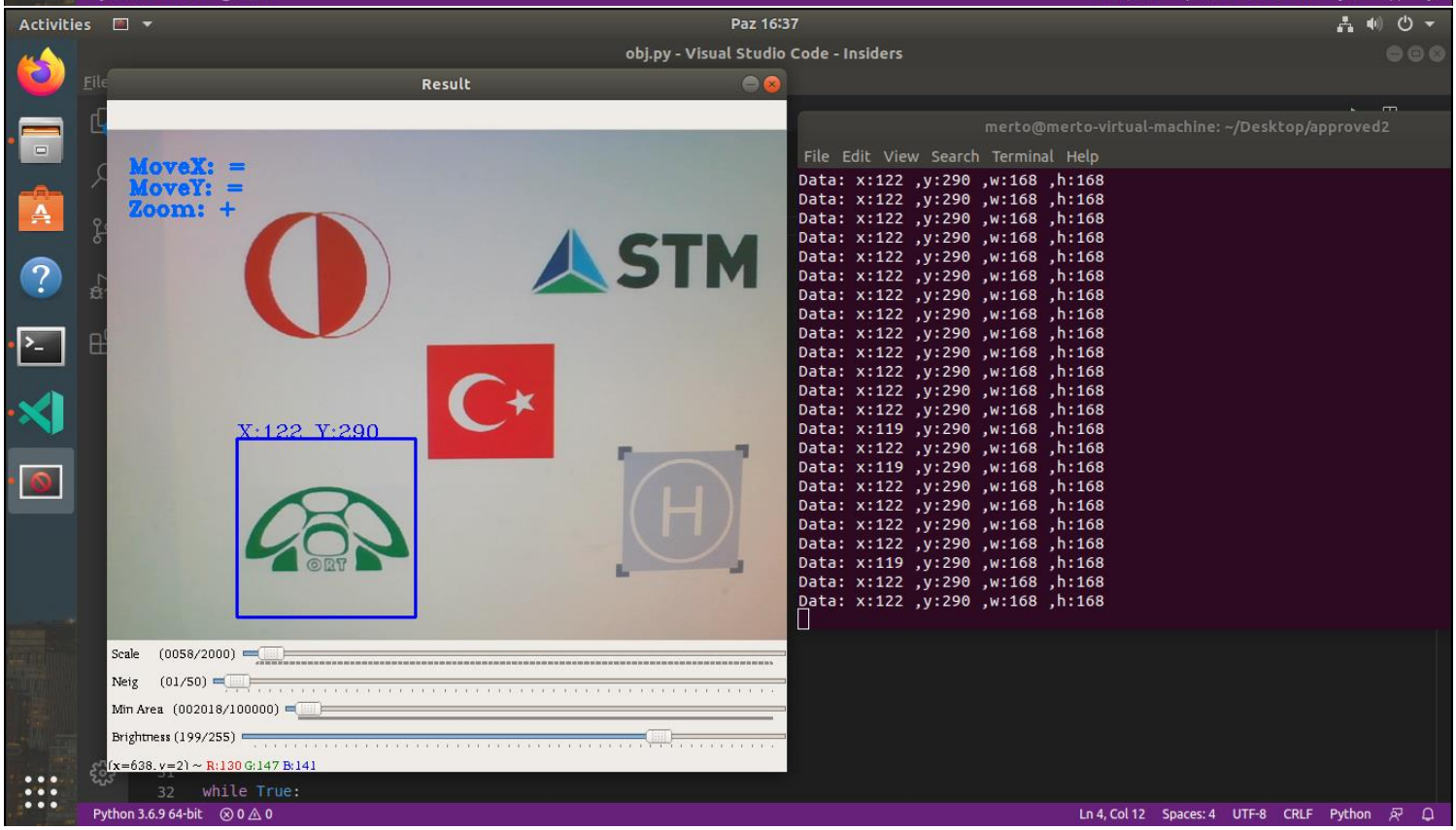
OTONOM İHA -BİLGİSAYARLI GÖRÜ YARIŞMASI

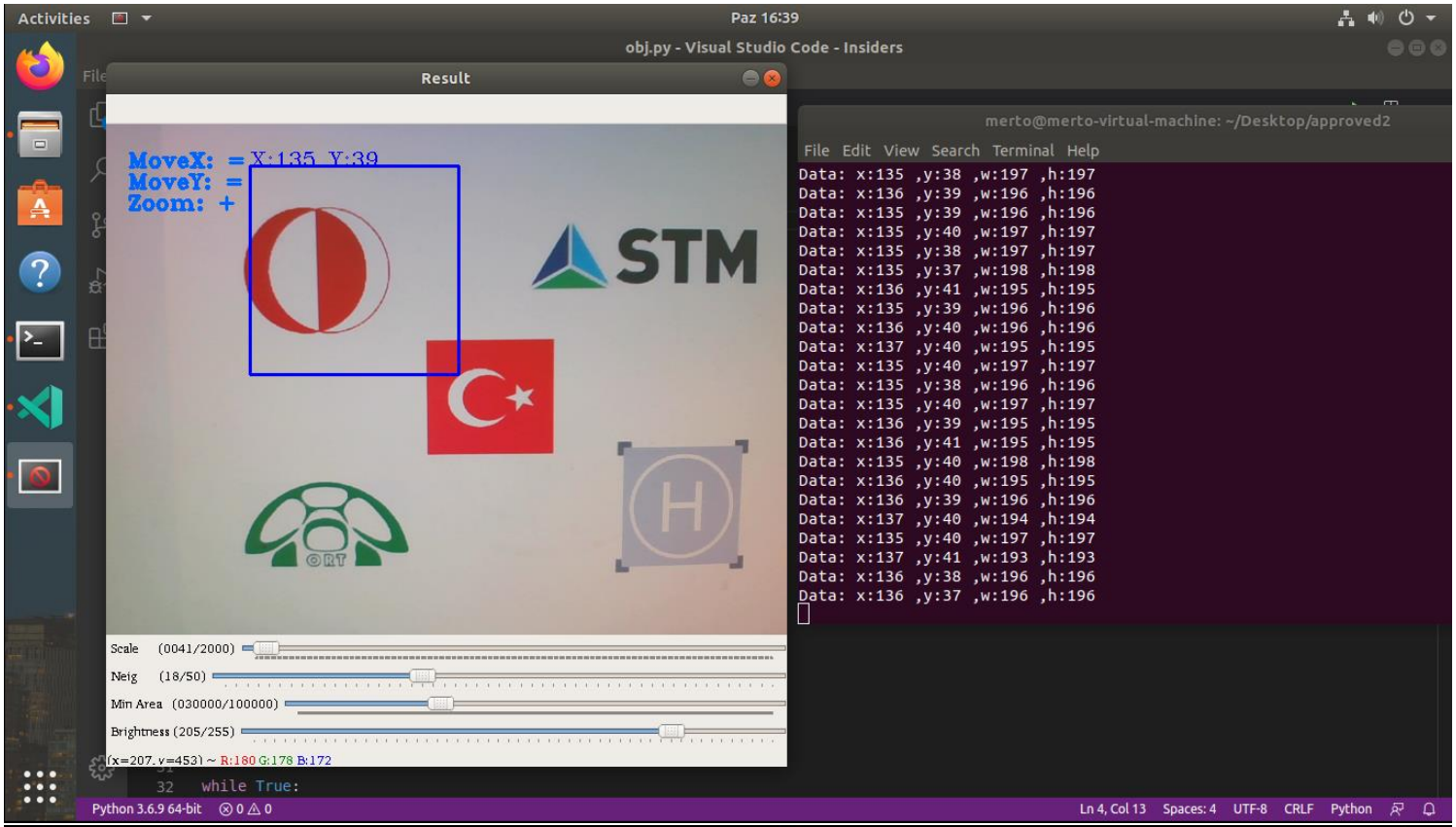
HAARCASCADE yöntemi ile yarışma için logo tespiti ,

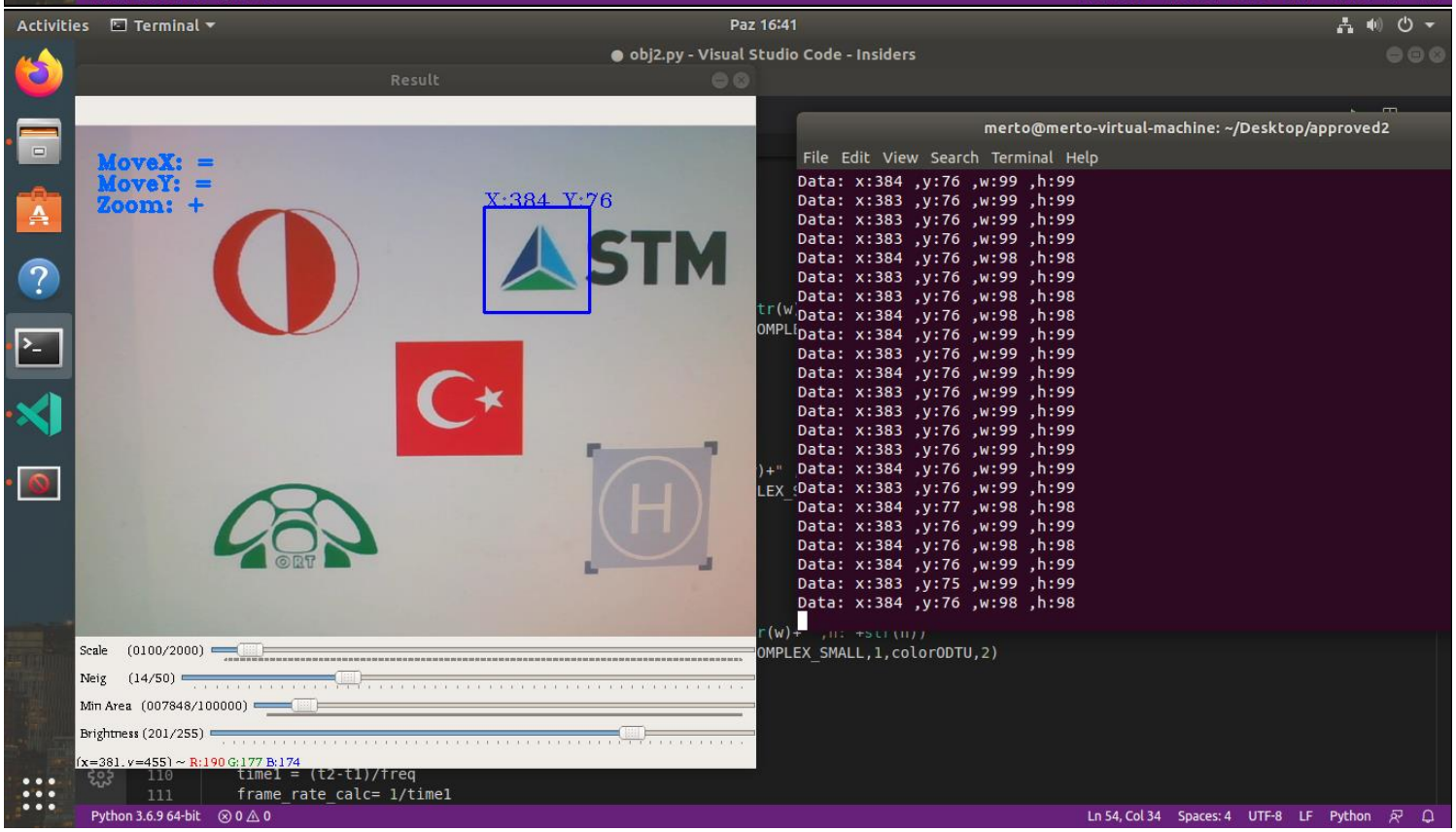





Activities
Terminal
Paz 16:35
obj2.py - Visual Studio Code - Insiders
Result
MoveX: =
MoveY: =
Zoom: +
STM
X:461 Y:296
Scale (0160/2000)
Neig (10/50)
Min Area (009417/100000)
Brightness (203/255)
merto@merto-virtual-machine: ~/Desktop/approved2
File Edit View Search Terminal Help
Data: x:449 ,y:282 ,w:153 ,h:153
Data: x:446 ,y:288 ,w:147 ,h:147
Data: x:441 ,y:283 ,w:155 ,h:155
Data: x:441 ,y:285 ,w:152 ,h:152
Data: x:443 ,y:289 ,w:146 ,h:146
Data: x:443 ,y:282 ,w:156 ,h:156
Data: x:450 ,y:285 ,w:153 ,h:153
Data: x:459 ,y:323 ,w:106 ,h:106
Data: x:449 ,y:290 ,w:141 ,h:141
Data: x:455 ,y:290 ,w:142 ,h:142
Data: x:446 ,y:285 ,w:150 ,h:150
Data: x:449 ,y:287 ,w:148 ,h:148
Data: x:453 ,y:286 ,w:149 ,h:149
Data: x:450 ,y:288 ,w:147 ,h:147
Data: x:440 ,y:285 ,w:153 ,h:153
Data: x:442 ,y:286 ,w:152 ,h:152
Data: x:445 ,y:283 ,w:155 ,h:155
Data: x:452 ,y:309 ,w:123 ,h:123
Data: x:452 ,y:290 ,w:142 ,h:142
Data: x:443 ,y:285 ,w:150 ,h:150
Data: x:445 ,y:285 ,w:151 ,h:151
Data: x:446 ,y:287 ,w:150 ,h:150
Data: x:461 ,y:296 ,w:130 ,h:130
cv2.rectangle(img,(x,y),(x+w,y+h),colorORT,3)
Python 3.6.9 64-bit
Ln 73, Col 5 Spaces: 4 UTF-8 LF Python


Activities
Paz 16:37
obj.py - Visual Studio Code - Insiders
Result
MoveX: =
MoveY: =
Zoom: +
STM
X:122 Y:290
Scale (0058/2000)
Neig (01/50)
Min Area (002018/100000)
Brightness (199/255)
merto@merto-virtual-machine: ~/Desktop/approved2
File Edit View Search Terminal Help
Data: x:122 ,y:290 ,w:168 ,h:168
Data: x:119 ,y:290 ,w:168 ,h:168
while True:
Python 3.6.9 64-bit
Ln 4, Col 12 Spaces: 4 UTF-8 CRLF Python


Activities
Paz 16:39
obj.py - Visual Studio Code - Insiders
Result
MoveX: = X:135 Y:39
MoveY: =
Zoom: +
STM
Scale (0041/2000)
Neig (18/50)
Min Area (030000/100000)
Brightness (205/255)
merto@merto-virtual-machine: ~/Desktop/approved2
File Edit View Search Terminal Help
Data: x:135 ,y:38 ,w:197 ,h:197
Data: x:136 ,y:39 ,w:196 ,h:196
Data: x:135 ,y:39 ,w:196 ,h:196
Data: x:135 ,y:40 ,w:197 ,h:197
Data: x:135 ,y:38 ,w:197 ,h:197
Data: x:135 ,y:37 ,w:198 ,h:198
Data: x:136 ,y:41 ,w:195 ,h:195
Data: x:135 ,y:39 ,w:196 ,h:196
Data: x:136 ,y:40 ,w:196 ,h:196
Data: x:137 ,y:40 ,w:195 ,h:195
Data: x:135 ,y:40 ,w:197 ,h:197
Data: x:135 ,y:38 ,w:196 ,h:196
Data: x:135 ,y:40 ,w:197 ,h:197
Data: x:136 ,y:39 ,w:195 ,h:195
Data: x:136 ,y:41 ,w:195 ,h:195
Data: x:135 ,y:40 ,w:198 ,h:198
Data: x:136 ,y:40 ,w:195 ,h:195
Data: x:136 ,y:39 ,w:196 ,h:196
Data: x:137 ,y:40 ,w:194 ,h:194
Data: x:135 ,y:40 ,w:197 ,h:197
Data: x:137 ,y:41 ,w:193 ,h:193
Data: x:136 ,y:38 ,w:196 ,h:196
Data: x:136 ,y:37 ,w:196 ,h:196
while True:
Python 3.6.9 64-bit
Ln 4, Col 13 Spaces: 4 UTF-8 CRLF Python


Activities
Terminal
Paz 16:41
obj2.py - Visual Studio Code - Insiders
Result
MoveX: =
MoveY: =
Zoom: +
X:384 Y:76
STM
Scale (0100/2000)
Neig (14/50)
Min Area (007848/100000)
Brightness (201/255)
merto@merto-virtual-machine: ~/Desktop/approved2
File Edit View Search Terminal Help
Data: x:384 ,y:76 ,w:99 ,h:99
Data: x:383 ,y:76 ,w:99 ,h:99
Data: x:383 ,y:76 ,w:99 ,h:99
Data: x:383 ,y:76 ,w:99 ,h:99
Data: x:384 ,y:76 ,w:98 ,h:98
Data: x:383 ,y:76 ,w:99 ,h:99
Data: x:383 ,y:76 ,w:98 ,h:98
Data: x:384 ,y:76 ,w:98 ,h:98
Data: x:384 ,y:76 ,w:99 ,h:99
Data: x:383 ,y:76 ,w:99 ,h:99
Data: x:384 ,y:76 ,w:99 ,h:99
Data: x:383 ,y:76 ,w:99 ,h:99
Data: x:383 ,y:76 ,w:99 ,h:99
Data: x:383 ,y:76 ,w:99 ,h:99
Data: x:384 ,y:76 ,w:99 ,h:99
Data: x:383 ,y:76 ,w:99 ,h:99
Data: x:384 ,y:77 ,w:98 ,h:98
Data: x:383 ,y:76 ,w:99 ,h:99
Data: x:384 ,y:76 ,w:98 ,h:98
Data: x:384 ,y:76 ,w:99 ,h:99
Data: x:383 ,y:75 ,w:99 ,h:99
Data: x:384 ,y:76 ,w:98 ,h:98
OMPLEX_SMALL,1,colorODTU,2)
time1 = (t2-t1)/freq
frame_rate_calc= 1/time1
Python 3.6.9 64-bit
Ln 54, Col 34 Spaces: 4 UTF-8 LF Python

Kaynak Kodu:

```
import cv2
import os
import argparse
import cv2
import numpy as np
import sys
import time
from threading import Thread
import importlib.util



cameraNo = 0


casSTM="odtu.xml"
casODTU="stm6.xml"
casORT="ort.xml"
casH="heli4.xml"


objSTM="STM"
objODTU="ODTU"
objORT="ORT"
objH="H"


frameWidth= 640
frameHeight = 480
colorH= (255,0,0)
colorSTM=(0,55,255)
colorODTU=(255,200,100)
colorORT=(0,0,0)


########################################################################
```

```
cap = cv2.VideoCapture(cameraNo)
cap.set(3, frameWidth)
cap.set(4, frameHeight)

def empty(a):
    pass

# CREATE TRACKBAR
cv2.namedWindow("Result")
cv2.resizeWindow("Result",frameWidth,frameHeight+100)
cv2.createTrackbar("Brightness","Result",200,255,empty)



cascadeH = cv2.CascadeClassifier(casH)
cascadeSTM = cv2.CascadeClassifier(casSTM)
cascadeODTU= cv2.CascadeClassifier(casODTU)
cascadeORT= cv2.CascadeClassifier(casORT)

frame_rate_calc = 1
freq = cv2.getTickFrequency()
while True:

    t1 = cv2.getTickCount()
    cameraBrightness = cv2.getTrackbarPos("Brightness", "Result")
    cap.set(10, cameraBrightness)
    success, img = cap.read()
    gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)

    objectsH=cascadeH.detectMultiScale(gray,1.1, 12)
    objectsSTM= cascadeSTM.detectMultiScale(gray,1.1, 4)
```

```
objectsODTU= cascadeODTU.detectMultiScale(gray,1.1, 20)
objectsORT= cascadeORT.detectMultiScale(gray,1.04, 1)



for (x,y,w,h) in objectsORT:
    area = w*h
    if area >1600:
       cv2.rectangle(img,(x,y),(x+w,y+h),colorORT,3)
       print("ORT :"+" x:"+str(x)+" ,y:"+str(y)+" ,w:"+str(w)+" ,h:"+str(h))
       cv2.putText(img,objORT,(x,y-5),cv2.FONT_HERSHEY_COMPLEX_SMALL,1,colorORT,2)
       roi_color = img[y:y+h, x:x+w]



for (x,y,w,h) in objectsSTM:
    area = w*h
    if area >10000:
       cv2.rectangle(img,(x,y),(x+w,y+h),colorSTM,3)
       print("STM :"+" x:"+str(x)+" ,y:"+str(y)+" ,w:"+str(w)+" ,h:"+str(h))
       cv2.putText(img,objSTM,(x,y-5),cv2.FONT_HERSHEY_COMPLEX_SMALL,1,colorSTM,2)
       roi_color = img[y:y+h, x:x+w]



for (x,y,w,h) in objectsH:
   area = w*h
   if area >20000:
      cv2.rectangle(img,(x,y),(x+w,y+h),colorH,3)
      print("H:"+" x:"+str(x)+" ,y:"+str(y)+" ,w:"+str(w)+" ,h:"+str(h))
      cv2.putText(img,objH,(x,y-5),cv2.FONT_HERSHEY_COMPLEX_SMALL,1,colorH,2)
      roi_color = img[y:y+h, x:x+w]
```

```
for (x,y,w,h) in objectsODTU:
        area = w*h
        if area >30000:
            cv2.rectangle(img,(x,y),(x+w,y+h),colorODTU,3)
            print("ODTU:"+" x:"+str(x)+" ,y:"+str(y)+" ,w:"+str(w)+" ,h:"+str(h))
            cv2.putText(img,objODTU,(x,y-5),cv2.FONT_HERSHEY_COMPLEX_SMALL,1,colorODTU,2)
            roi_color = img[y:y+h, x:x+w]



    #img=cv2.flip(img,-1)
    t2 = cv2.getTickCount()
    time1 = (t2-t1)/freq
    frame_rate_calc= 1/time1
    cv2.putText(img,'FPS:
{0:.2f}'.format(frame_rate_calc),(10,20),cv2.FONT_HERSHEY_SIMPLEX,1,(255,255,0),2,cv2.LINE_AA)


    cv2.imshow("Result", img)


    if cv2.waitKey(1) & 0xFF == ord('q'):
        break
```