#code written by Shubham Shinganapure date 13/4/2018 \_\_\_\_\_\_\_

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import numpy as np

import cv2

import serial

import time

fire\_cascade = cv2.CascadeClassifier('fire\_detection.xml')

#fire\_detection.xml file & this code should be in the same folder while running the code

ser1 = serial.Serial('COM14',9600)#change COM port number on which your arduino is connected

cap = cv2.VideoCapture(0)

while 1:

#ser1.write('0')

ret, img = cap.read()

#cv2.imshow('imgorignal',img)

gray = cv2.cvtColor(img,cv2.COLOR\_BGR2GRAY)

fire = fire\_cascade.detectMultiScale(img, 1.2, 5)

for (x,y,w,h) in fire:

cv2.rectangle(img,(x,y),(x+w,y+h),(0,0,255),2)

roi\_gray = gray[y:y+h, x:x+w]

roi\_color = img[y:y+h, x:x+w]

print 'Fire is detected..!'

ser1.write('p')

time.sleep(0.2)

cv2.imshow('img',img)

ser1.write('s')

k = cv2.waitKey(30) & 0xff

if k == 27:

break

cap.release()

cv2.destroyAllWindows()