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Date Page

- Python:

→ Build a Webcam Motion Detector:

- q - quit, We get graph, it shows the when the object enter the frame.
- We will learn how to detect the image

Eg: Animal entering, leaving etc.

And help us to detect the motion in video.

① First we have capture the background then img of human or animal.

② Difference frame or Delta frame: It has some high intensity values. It represent that it has potential values but in black area there is no potential motion.

③ We will find the counter to each frame. If the counter is 500 pixel it is considered as moving object.

④ We will come to know the video or img exited the frame.

⑤ We want to store the video.

So we have to create a variable.

To run the video and script will be stored or triggered and while will run and it will get first frame and this frame will be covered by grey is NONE.

Python will grab the second frame.

Then calculate the difference b/w previous and current frame.

But current frame we have to blur the gray image, then pass the height of the blur image ((21,21),0)

To show the image

cv2.imshow("Gray Frame", gray)

- The difference b/w previous and current frame is more then 50, we will classify that has white frame. If the difference is 30 we will sign as black frame. we can do it by threshold.

thresh_delta = cv2.threshold(frame_delta, 30, 255, cv2.THRESH_BINARY)[1]

Then to show the o/p

cv2.imshow("Threshold Frame", thresh_delta)

Now remove the black holes from white frame. So use,

thresh_frame = cv2.dilate(thresh_frame, None, iterations=2)

Next find the counter.

We have 2 counter method:

→ find counter → Draw counter.

→ Find counter: We find counter in our image

→ Draw counter: Draws the counter in our image.

Here we find the area so we use Find counter.

(cnts, _) = cv2.findContours(thresh_frame.copy(), cv2.RETR_EXTERNAL, cv2.CHAIN_APPROX_SIMPLE)

→ Countour area should be more than 1000 pxls.

for countour in cnts:

if cv2.countourArea(countour) < 1000:

continue

(x, y, w, h) = cv2.boundRect(countour)

cv2.rectangle(frame, (x, y), (x+w, y+h), (0, 255, 0), 3)

The to show a image with rectange.

cv2.imshow("Colour Frame", frame)

- **Capturing Motion time:**

→ First find out the point where the status is changing from motion to non motion.

→ status=0 for 1st motion.

when python find the size bigger then chang -e the status as 1.

then print (status).

Then apply datetime.now() which gives time.

we want to know the frame changes from status 0 to 1.

So status_list=[]

then apply status_list.append(status).

then print (status_list) outside the while loop.

then times.append (datetime.now())

then we get the datetime when the img as motion in the video.