Object Tracking

February 12, 2022

[24]:

```
import cv2 as cv
from tracker import *
import sys
```

[15]:

```
# Create tracker object
tracker = EuclideanDistTracker()
```

[16]:

```
# object detector
object_detector = cv.createBackgroundSubtractorMOG2(history=100, varThreshold=50)
```

[25]:

```
url = r'C:\Users\choice com\Desktop\python\highway.mp4'
video = cv.VideoCapture(url)
```

[27]:

```
img = cv.VideoCapture(url)
if img is None:
    print("Can't load image, please check the path", file=sys.stderr)
    sys.exit(1)
```

[ ]:

```
while True:
    success , frame =video.read()
#     height, width, _ = frame.shape
#     print(height,width)

    # Extract Region of interest(roi)
    roi = frame
    # apply Mask
    mask = object_detector.apply(roi)

    _, mask = cv.threshold(mask, 254, 255, cv.THRESH_BINARY)
    contours, _ = cv.findContours(mask, cv.RETR_TREE, cv.CHAIN_APPROX_SIMPLE)
    detections = []
    for cnt in contours:
        # Calculate area and remove small elements
        area = cv.contourArea(cnt)
        if area > 100:
            #cv2.drawContours(roi, [cnt], -1, (0, 255, 0), 2)
            x, y, w, h = cv.boundingRect(cnt)
            detections.append([x, y, w, h])
```

[ ]:

```
 # 2. Object Tracking

    boxes_ids = tracker.update(detections)
    for box_id in boxes_ids:
        x, y, w, h, id = box_id
        cv2.putText(roi, str(id), (x, y - 15), cv2.FONT_HERSHEY_PLAIN, 2, (255,␣
 ↪0, 0), 2)
        cv2.rectangle(roi, (x, y), (x + w, y + h), (0, 255, 0), 3)
```

[ ]:

```
# show the results

cv.imshow('rio',rio)
cv.imshow('mask',mask)
cv.imshow('video',frame)
key = cv.waitKey(30)

    if key & 0xff == ord('q'):
        break


video.release()
cv.destroyAllWindows()
```