

```

1 # import the opencv library
2 import cv2
3 import numpy as np
4
5 # define a video capture object
6 vid = cv2.VideoCapture(0)
7 params = cv2.SimpleBlobDetector_Params()
8
9 params.minThreshold = 100
10 params.maxThreshold = 255
11
12 # Filter by Area
13 params.filterByArea = True
14 params.minArea = 500
15 params.maxArea = 250000
16
17 # Filter by Circularity
18 params.filterByCircularity = True
19 params.minCircularity = 0.4
20
21 # Filter by Convexity
22 params.filterByConvexity = True
23 params.minConvexity = 0.3
24
25 # Filter by Inertia
26 params.filterByInertia = True
27 params.minInertiaRatio = 0.01
28
29 ver = (cv2.__version__).split('.')
30 if int(ver[0]) < 3 :
31     detector = cv2.SimpleBlobDetector(params)
32 else :
33     detector = cv2.SimpleBlobDetector_create(params)
34
35 # define range of selected color in HSV
36 lower_limit = np.array([0,50,50])
37 upper_limit = np.array([20,255,255])
38
39 kernel = np.ones((5, 5), np.uint8)
40 while(True):
41
42     # Capture the video frame
43     # by frame
44     _,im = vid.read()
45     hsv = cv2.cvtColor(im, cv2.COLOR_BGR2HSV)
46
47     # Threshold the HSV image to get only blue colors
48     mask = cv2.inRange(hsv, lower_limit, upper_limit)
49     mask = cv2.morphologyEx(mask, cv2.MORPH_CLOSE, kernel)
50
51     # Bitwise-AND mask and original image
52     res = cv2.bitwise_and(im,im, mask= mask)
53
54     #cv2.imshow('frame',im)
55     #cv2.imshow('mask',mask)
56     cv2.imshow('res',res)
57
58
59     #im3 = cv2.bitwise_not(im3)
60     keypoints = detector.detect(cv2.bitwise_not(mask))
61
62     #imcv = cv2.cvtColor(np.array(im),cv2.COLOR_RGB2BGR)
63     im_with_keypoints = cv2.drawKeypoints(im, keypoints, np.array([0,0,255]), cv2.DRAW_MATCHES_FLAGS_DRAW_RICH_KEYPOINTS)
64
65     #cv2.imshow("Mask", im3)
66     cv2.imshow("Detection", im_with_keypoints)
67
68     # the 'q' button is set as the
69     # quitting button you may use any
70     # desired button of your choice
71     if cv2.waitKey(1) & 0xFF == ord('q'):
72         break
73
74 # After the loop release the cap object
75 vid.release()
76 # Destroy all the windows
77 cv2.destroyAllWindows()

```

Computer Vision