

```

1 # Mouse using Hand Gesture
2
3 import cv2
4 import mediapipe as mp
5 import pyautogui
6
7 cap = cv2.VideoCapture(0)
8 det = mp.solutions.hands.Hands()
9 draw = mp.solutions.drawing_utils
10 scr_w, scr_h = pyautogui.size()
11
12 in_y = 0
13 in_x = 0
14
15 while True:
16
17     suc, img = cap.read()
18     img = cv2.flip(img, 1)
19     img = cv2.resize(img, (700, 400))
20     img_h, img_w, val= img.shape
21     rgb_img = cv2.cvtColor(img, cv2.COLOR_BGR2RGB)
22     out = det.process(rgb_img)
23     hands = out.multi_hand_landmarks
24
25     if hands:
26
27         for hand in hands:
28             draw.draw_landmarks(img, hand)
29             land = hand.landmark
30
31             for id, land in enumerate(land):
32                 x = int(land.x*img_w)
33                 y = int(land.y*img_h)
34
35                 if id == 8:
36                     cv2.circle(img=img, center=(x,y), radius=10, color=(0, 255, 255))
37                     in_x = scr_w/img_w*x
38                     in_y = scr_h/img_h*y
39
40                 if id == 4:
41                     cv2.circle(img=img, center=(x,y), radius=10, color=(255, 255,
42 255))
43                     th_x = scr_w/img_w*x
44                     th_y = scr_h/img_h*y
45
46                     if abs(in_y - th_y) < 20:
47                         pyautogui.click()
48                         pyautogui.sleep(1)
49                     elif abs(in_y - th_y) < 450 and abs(in_y - th_y) > 100:
50                         pyautogui.moveTo(in_x, in_y)
51
52     cv2.imshow('Virtual Mouse',img)
53     cv2.waitKey(8)

```