import cv2

import mediapipe as mp

import pyautogui

import time

def count\_fingers(lst):

cnt = 0

thresh = (lst.landmark[0].y\*100 - lst.landmark[9].y\*100)/2

if (lst.landmark[5].y\*100 - lst.landmark[8].y\*100) > thresh:

cnt += 1

if (lst.landmark[9].y\*100 - lst.landmark[12].y\*100) > thresh:

cnt += 1

if (lst.landmark[13].y\*100 - lst.landmark[16].y\*100) > thresh:

cnt += 1

if (lst.landmark[17].y\*100 - lst.landmark[20].y\*100) > thresh:

cnt += 1

if (lst.landmark[5].x\*100 - lst.landmark[4].x\*100) > 6:

cnt += 1

return cnt

cap = cv2.VideoCapture(0)

drawing = mp.solutions.drawing\_utils

hands = mp.solutions.hands

hand\_obj = hands.Hands(max\_num\_hands=1)

start\_init = False

prev = -1

while True:

end\_time = time.time()

\_, frm = cap.read()

frm = cv2.flip(frm, 1)

res = hand\_obj.process(cv2.cvtColor(frm, cv2.COLOR\_BGR2RGB))

if res.multi\_hand\_landmarks:

hand\_keyPoints = res.multi\_hand\_landmarks[0]

cnt = count\_fingers(hand\_keyPoints)

if not(prev==cnt):

if not(start\_init):

start\_time = time.time()

start\_init = True

elif (end\_time-start\_time) > 0.2:

if (cnt == 1):

pyautogui.press("right")

elif (cnt == 2):

pyautogui.press("left")

elif (cnt == 3):

pyautogui.press("up")

elif (cnt == 4):

pyautogui.press("down")

elif (cnt == 5):

pyautogui.press("space")

prev = cnt

start\_init = False

drawing.draw\_landmarks(frm, hand\_keyPoints, hands.HAND\_CONNECTIONS)

cv2.imshow("window", frm)

if cv2.waitKey(1) == 27:

cv2.destroyAllWindows()

cap.release()

break