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1 import cv2
2 import mediapipe as mp
3 import pyautogui
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4 import math
5
6 x1 = y1 = x2 = y2 = 0
7 webcam = cv2.VideoCapture(0) # Function to capture the video
8 my_hands = mp.solutions.hands.Hands() # To capture our hands
9 drawing_utils = mp.solutions.drawing_utils # To draw points in our hands
10
11 while True:
12     _, image = webcam.read() # Read the video frame
13     image = cv2.flip(image, flipCode: 1) # Flip the image horizontally
14     frame_height, frame_width, _ = image.shape # Get frame dimensions
15     rgb_image = cv2.cvtColor(image, cv2.COLOR_BGR2RGB) # Convert image to RGB
16     output = my_hands.process(rgb_image) # Process the image for hand landmarks
17     hands = output.multi_hand_landmarks # Get the detected hands
18
19     if hands:
20         for hand in hands:
21             drawing_utils.draw_landmarks(image, hand) # Draw hand landmarks
22             landmarks = hand.landmark # Collect finger landmarks
23             for id, landmark in enumerate(landmarks): # Iterate through landmarks
24                 x = int(landmark.x * frame_width)
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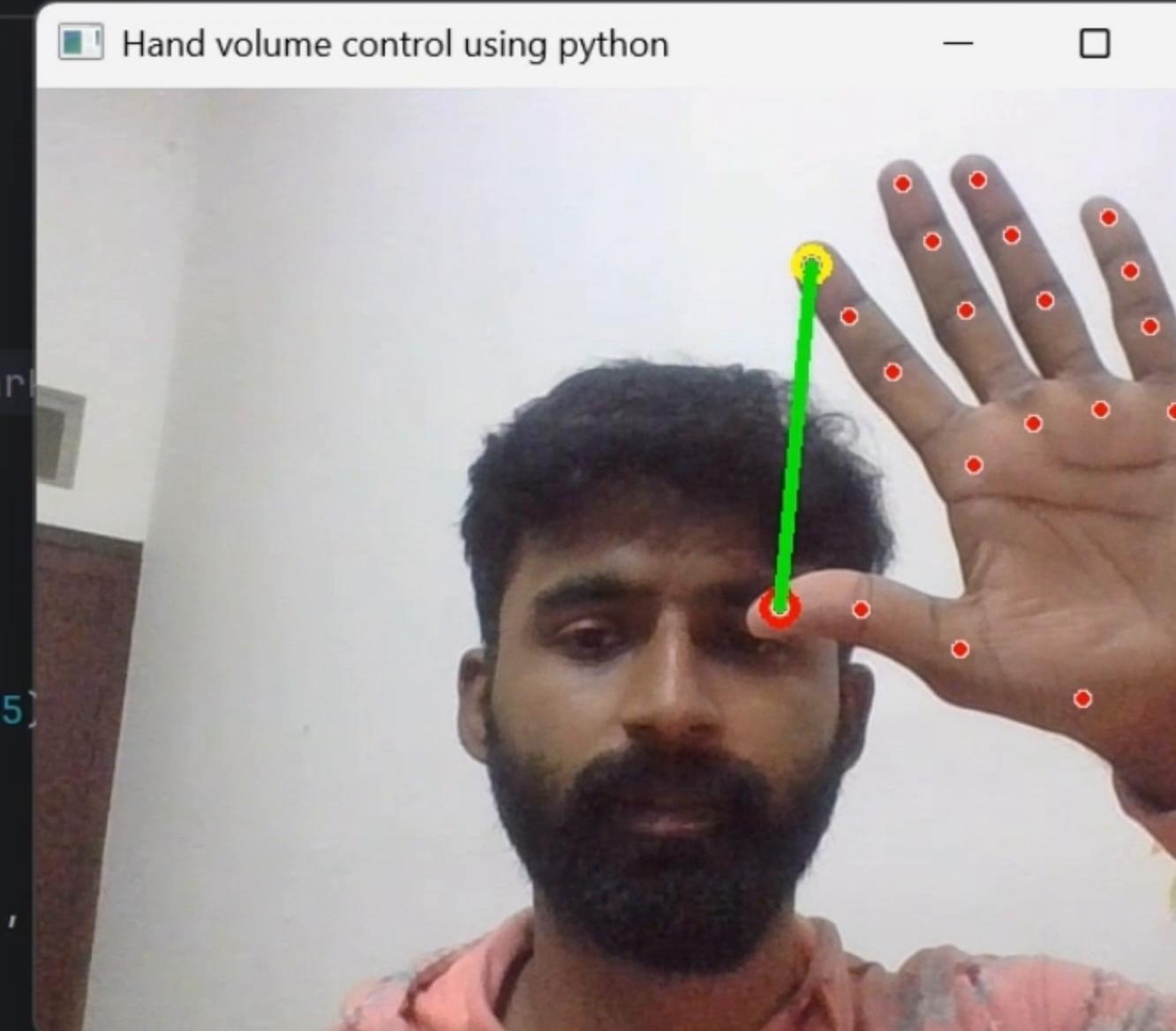
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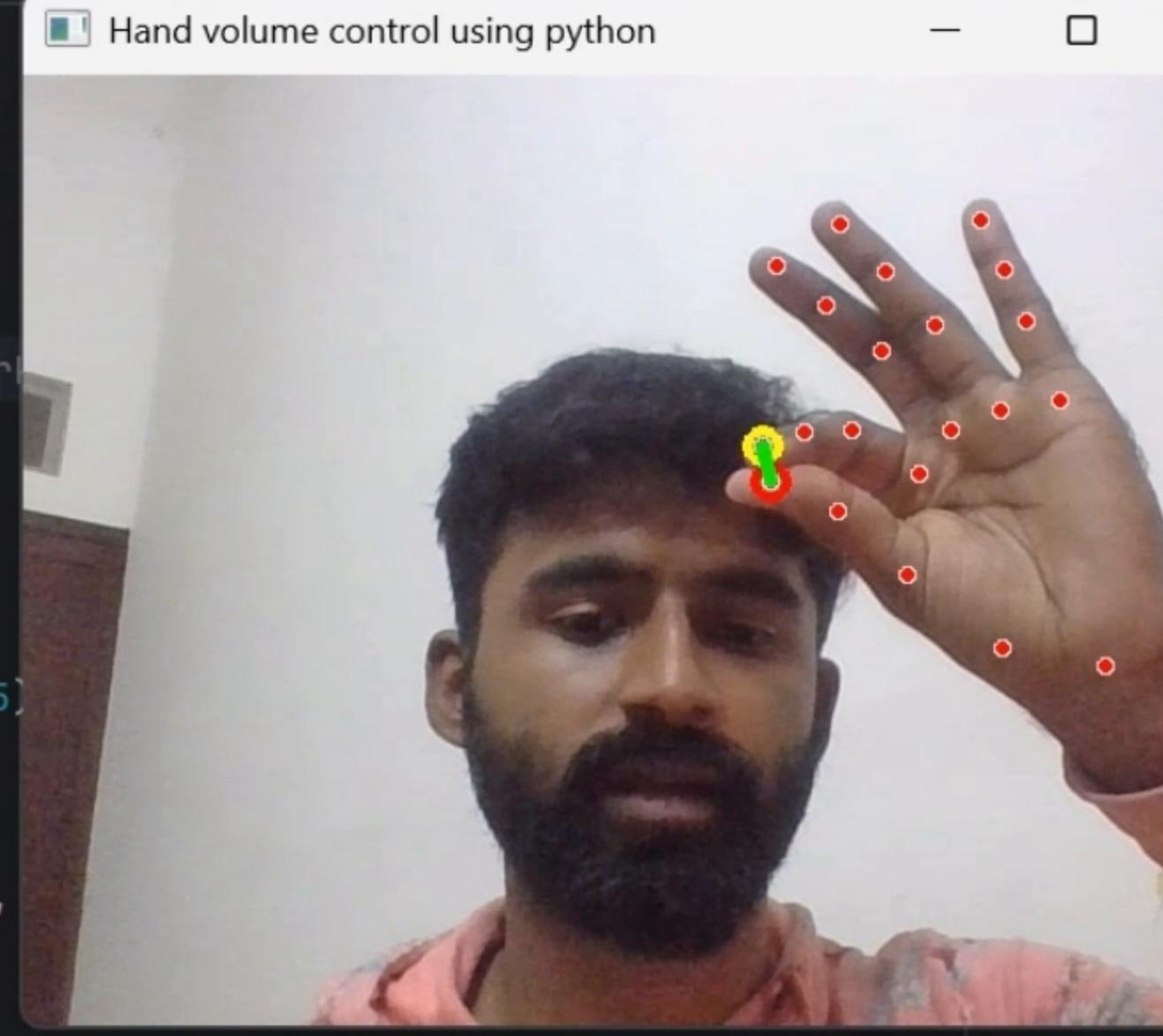
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27                 if id == 8: # Tip of the index finger  
28                     cv2.circle(image, center: (x, y), radius: 8, color: (0, 255, 255))  
29                     x1, y1 = x, y  
30                 if id == 4: # Tip of the thumb  
31                     cv2.circle(image, center: (x, y), radius: 8, color: (0, 0, 255),  
32                         x2, y2 = x, y  
33  
34             # Calculate Euclidean distance between thumb and index finger  
35             dist = math.sqrt((x2 - x1) ** 2 + (y2 - y1) ** 2)  
36  
37             # Draw a line between thumb and index finger  
38             cv2.line(image, pt1: (x1, y1), pt2: (x2, y2), color: (0, 255, 0), thickness: 5)  
39  
40             # Volume control based on distance  
41             if dist > 50:  
42                 pyautogui.press("volumeup")
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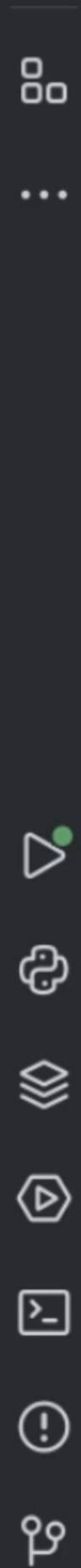
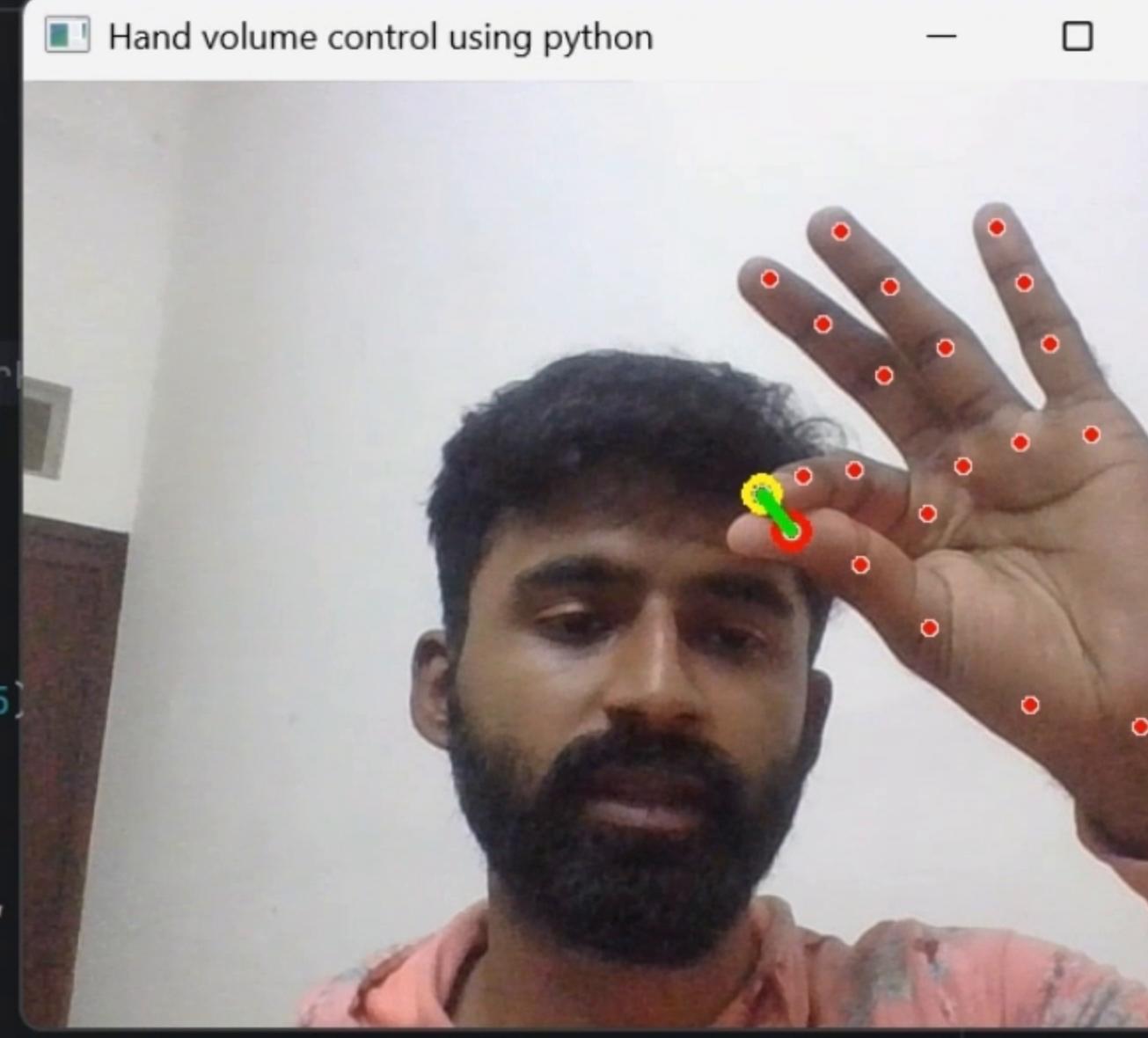
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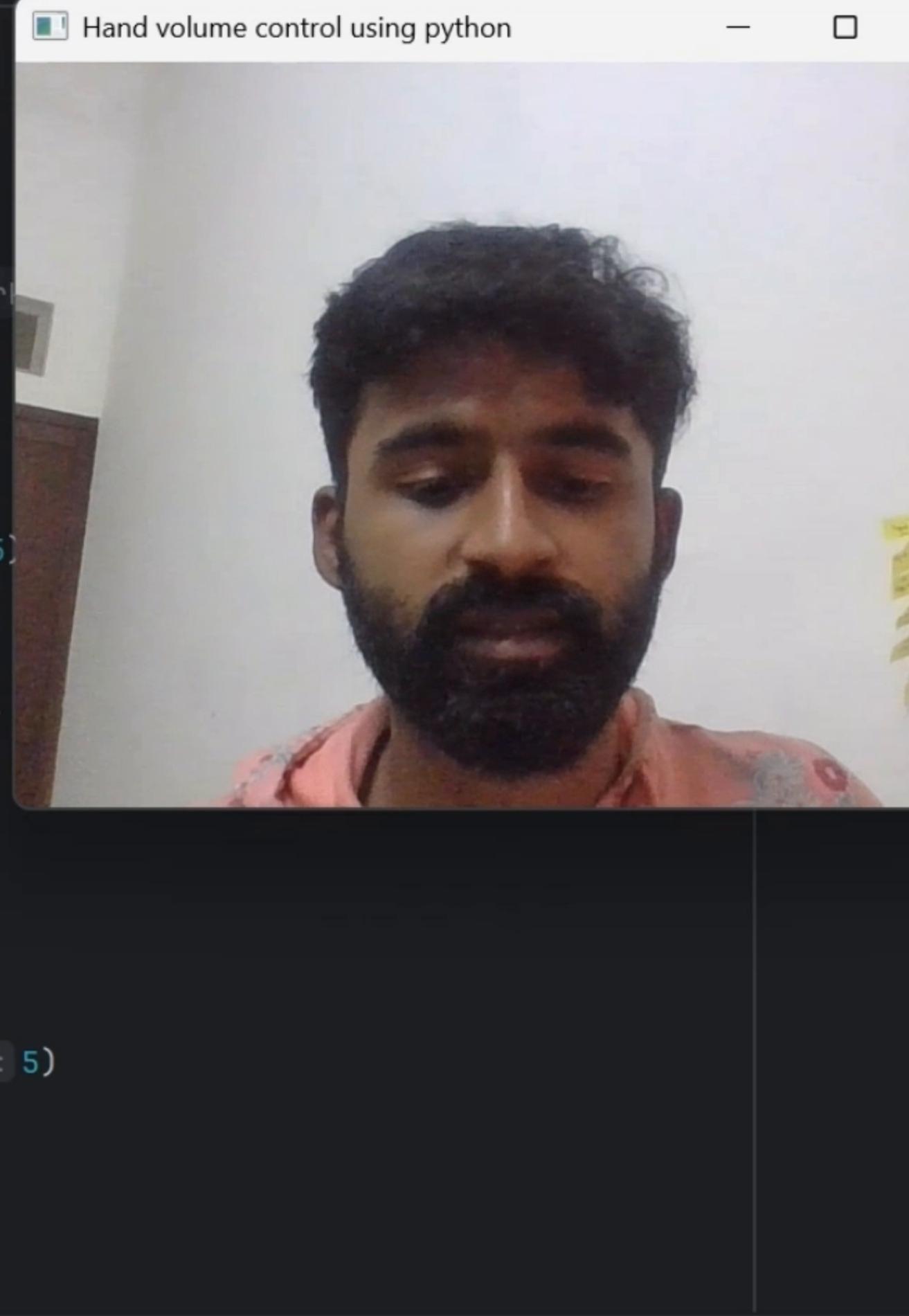
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Landmarks

through landmarks

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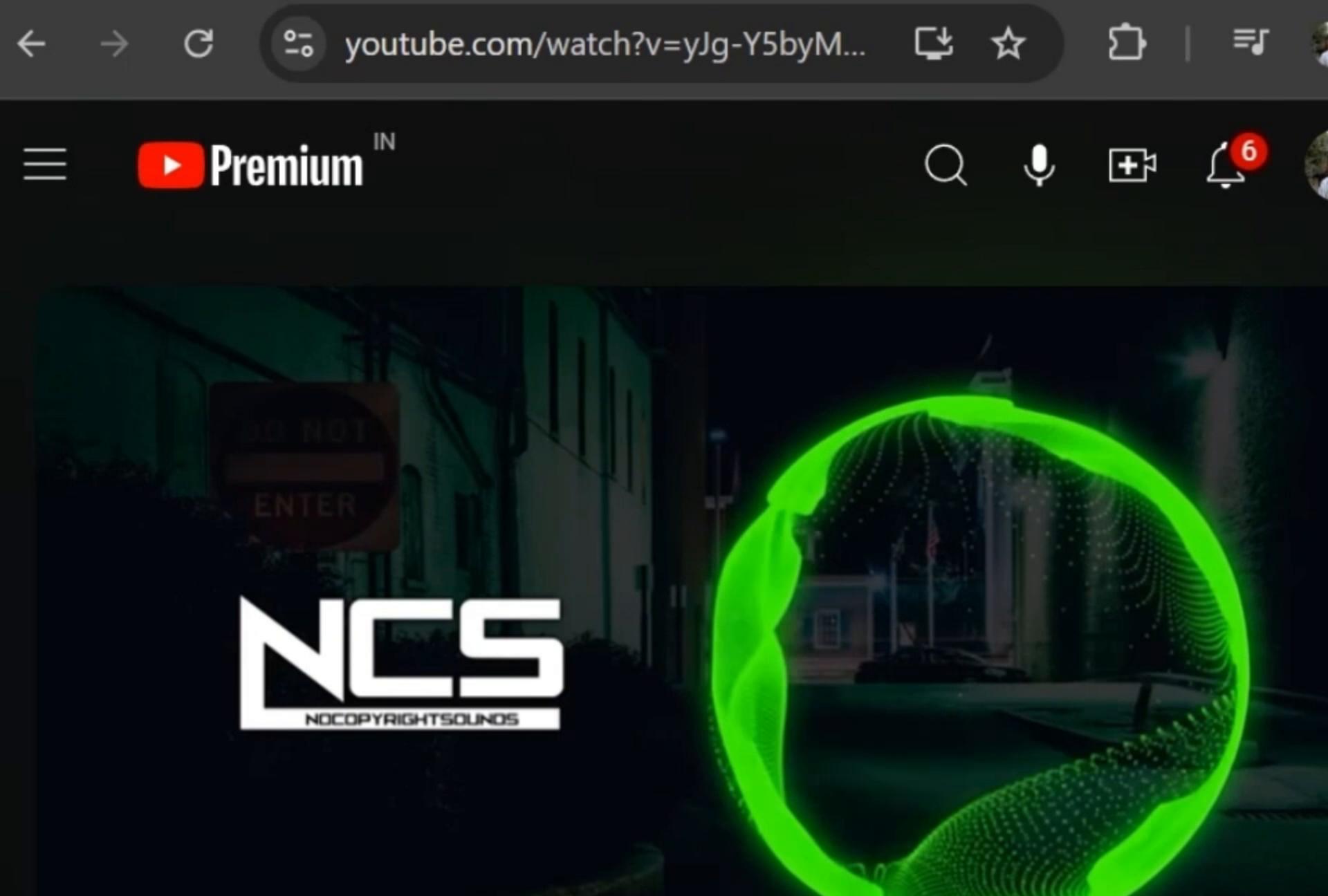
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Premium IN



Search Microphone Camera + 6

Landmarks

through landmarks

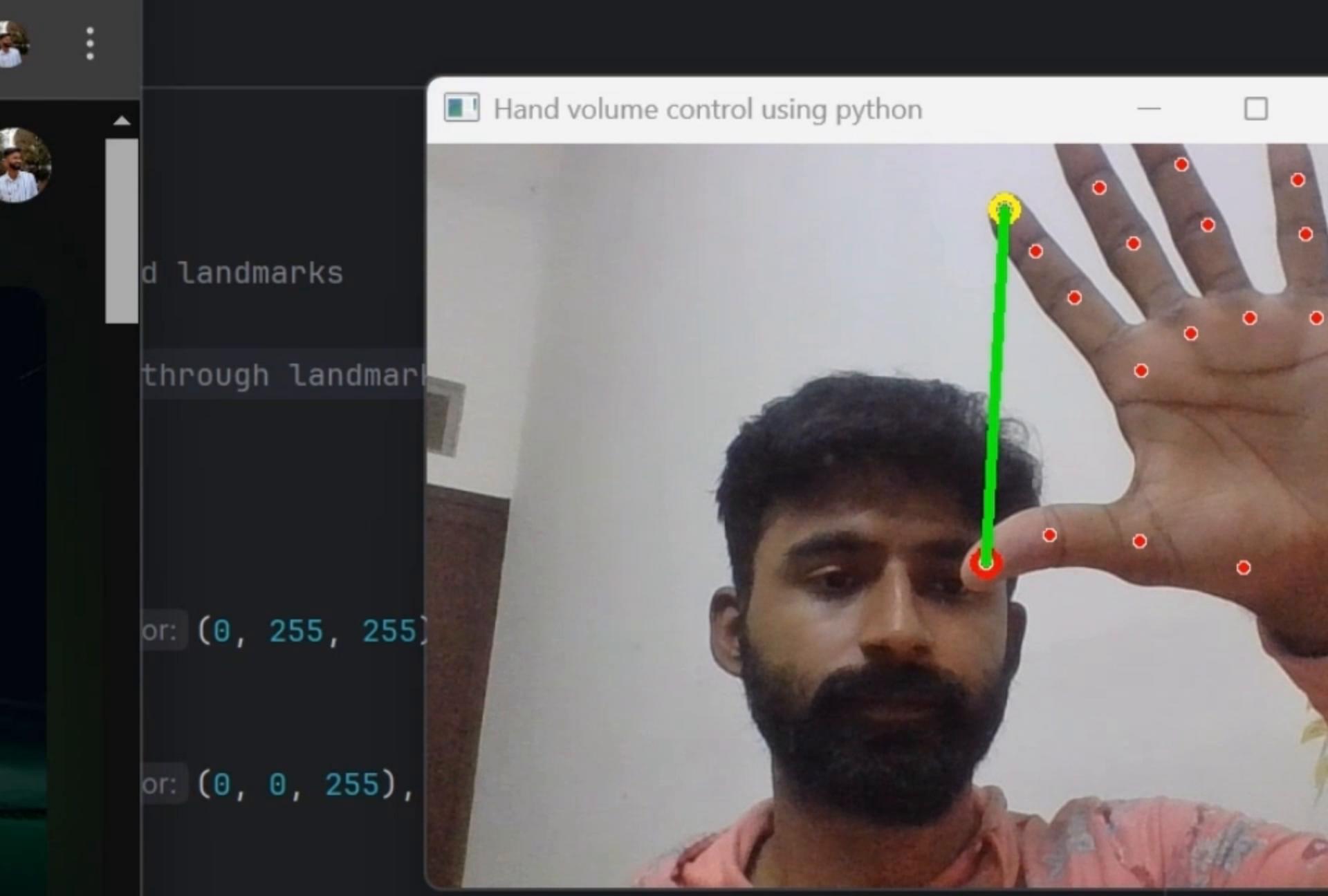
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