

Gesture-Controlled System using OpenCV & MediaPipe

This project lets you control your computer using hand gestures captured via webcam. It can adjust volume, open apps, or mute the system, all powered by OpenCV, MediaPipe, and pyautogui.

Features

- Real-time hand tracking through your webcam
- Counts the number of raised fingers
- Triggers actions based on finger count:
 - 0 fingers → Mute system
 - 1 finger → Volume down
 - 2 fingers → Volume up
 - 3 fingers → Open Notepad
 - 4 fingers → Open File Explorer
 - 5 fingers → Do nothing
- Shows FPS (frames per second) on screen
- Includes a cooldown timer to prevent repeated actions
- Displays finger count on the video feed

Tech Stack

- **Language:** Python
- **Libraries:**
 - opencv-python
 - mediapipe
 - pyautogui
 - time, os (standard Python libraries)

How to Run

1. Install Requirements:

```
pip install opencv-python mediapipe pyautogui
```

2. Run the Script:


```
python gesture_control.py
```

3. Ensure your webcam is connected and grant permissions for keyboard/mouse control if prompted (especially on Windows).

Gesture to Action Mapping

Gesture	Action
0 Fingers Up	Mute System
1 Finger Up	Volume Down
2 Fingers Up	Volume Up
3 Fingers Up	Open Notepad
4 Fingers Up	Open File Explorer
5 Fingers Up	No Action

Demo

Watch the live demo here:  [Project Video](#)

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