**✋ 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

1. **Run the Script**:

python gesture\_control.py

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

**🤖 Gesture to Action Mapping**

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| --- | --- |
| **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](https://github.com/yshasvee7/Hand-gesture-control/blob/main/video.mp4)

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