HAND GESTURE CONTROL VIRTUAL MOUSE BY USING OPEN CV

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Abstract:
In this project, we suggest utilizing OpenCV (Open Source Computer Vision Library) to create a hand gesture-controlled virtual mouse. The goal is to develop a user-friendly, contactless interface for computer interaction that is especially appropriate in situations where using a regular mouse is unfavorable or impossible, including in pandemic situations or for people with physical limitations. Through a webcam, the system will detect hand movements and identify particular gestures in real-time using computer vision algorithms. The extensive collection of image processing functions provided by OpenCV will be used to extract pertinent information from the video stream so that the system can recognize and react to human motions with precision.

Keywords:
Deep learning, OpenCV, media pipeline and hand gesture.

INTRODUCTION :
The fields of augmented reality and the devices that we often use in our daily lives are expanding along with the modern world. The functionality of these devices has expanded, such as Bluetooth or far-off technical advancements. This work proposes an AI virtual mouse system for nursing that employs hand signals and hand tip identification to achieve articulations mouse limits at ranges the advantages PC cheating adaptable PC vision. The most objective feature of the suggested system is that it extends the smaller PC using a webcam or a regular camera rather than an outdated mouse device to carry out device pointer functions and material performances. Make a motion with your hands. The hand tip area brought on by improper use of helpful PC vision is also.

LITERATURE SURVEY
The study by Monika B. Gandhi, Sneha U. Dudhane, and Ashwini M. Patil
In 2013 focuses on the development of a cursor control system using hand gesture recognition. This research explores the feasibility of using hand gestures as an intuitive and contactless method to control the computer cursor, potentially reducing the reliance on traditional input devices like mice or touchpads.

CONCLUSION:
The primary objective of the AI visual mouse system is to free the user from the stress of handling objects by enabling hand-touch control over the mouse pointer function. The suggested system records and interprets hand gestures and tips. These systems can be accessed via integrated systems or webcams. The great degree of accuracy of the suggested model allows it to be easily applied to real-world scenarios.

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