# A GESTURE BASED TOOL FOR STERILE BROWSING OF RADIOLOGY IMAGES

Hand gestures are a kind of body language in which the position and shape of the center of the palm and the fingers communicate specific information. The gesture is made up of both static and dynamic hand movements in general. Dynamic hand gestures are made up of a series of hand movements, while static hand gestures are based only on the shape of the hand. Different individuals describe gestures differently due to the cultural variety and uniqueness of gestures. Static hand gestures rely on the shape of the hand gesture to convey the message, while dynamic hand gestures rely on the movement of the hands to transfer the meaning. The ability to instantly and without delay identify hand motions is known as the detection of real-time hand gestures. Processing speed, image processing techniques, acceptable delay in conveying results, and recognition algorithms differ between real-time and non-real-time hand gestures.

This project presents a way to improve real-time visual perception using only webcams and computer vision technologies such as multi-contact detectable image processing for use in computer interactions. Almost everywhere we interact with computers. An important feature of this project is to simulate mouse as a visual input device with all its functions like left click, right click.

## PROBLEM STATEMENTS:

1. Visual-based mouse design receives wearable models instead of visual mice.

2. Basically for this project using hand gestures recorded by a webcam.

3. The camera captures and detects hand movements and performs mouse functions.

In this project Gesture based Desktop automation. First the model is trained pre trained on the images of different hand gestures, such as a showing numbers with fingers as 1,2,3,4. This model uses the integrated webcam to capture the video frame. The image of the gesture captured in the video frame is compared with the Pre-trained model and the gesture is identified.

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┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│   Tracking   │─────▶│   Feature    │─────▶│Classification│
│              │      │  extraction  │      │              │
└──────────────┘      └──────────────┘      └──────────────┘
       ▲                                            │
       │                                            ▼
┌──────────────┐                            ┌──────────────┐
│     Hand     │                            │    Output    │
│ segmentation │                            │   gesture    │
└──────────────┘                            └──────────────┘
       ▲
       │
┌──────────────┐
│ Image frame  │
│ acquisition  │
└──────────────┘
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