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Gesture Controlled Virtual Mouse and Voice Assistant

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Abstract: *The Al Virtual Mouse uses computer vision techniques to track hand movements and translates them into cursor movements on the screen. The system is designed user-friendly, allowing users to interact with their computer without the need for a physical mouse. The system is constructed using advanced Python packages like Mediapipe, OpenCV, etc. All i/o activities are physically controlled by a hand motion and a voice assistance. The research uses advanced technologies like machine learning and computer vision techniques, which operates well without the use of any additional computer resources, to recognize hand movements and spoken instruction. The developed system provides an alternative to conventional mouse devices, for individuals with disabilities or those who prefer a more natural way of interacting with their computers.*

Keywords: Media pipe, Machine Learning, Gesture Recognition, Virtual Mouse, Voice Assistant

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