AI Desktop Voice Command Assistant and Hand Gesture Control

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Abstract: *This paper explores the convergence of AI voice assistant and hand gesture controls as new ways of extending human-computer interaction. AI voice assistants, such as Amazon Alexa and Google Assistant, use speech recognition and natural language processing to execute commands given by users, whereas hand gesture controls use computer vision to understand physical gestures to navigate devices. With the use of Python and its libraries, Speech Recognition, OpenCV, and MediaPipe, developers can design advanced applications that enhance accessibility and user experience in different fields like healthcare and education. In this study, the application of voice and gesture-based interactions is highlighted as a way of developing a more intuitive digital world, leaving the platform open for further innovation catering to varied user demands.*

Keywords: AI voice assistant