Real Time Two Way Communication Approach for Hearing Impaired and Dumb Person Based on Image

Abstract:

In the recent years, there has been rapid increase in the number of deaf and dumb victims due to birth defects, accidents and oral diseases. Since deaf and dumb people cannot communicate with normal person so they have to depend on some sort of visual communication. Gesture shows an expressive movement of body parts such as physical movements of head, face, arms, hand or body which convey some message. Gesture recognition is the mathematical interpretation of a human motion by a computing device. Sign language provide best communication platform for the hearing impaired and dumb person to communicate with normal person. The objective of this research is to develop a real time system for hand gesture recognition which recognize hand gestures, features of hands such as peak calculation and angle calculation and then convert gesture images into voice and vice versa. To implement this system we use a simple night vision web-cam with 20 megapixel intensity. The ideas consisted of designing and implement a system using artificial intelligence, image processing and data mining concepts to take input as hand gestures and generate recognizable outputs in the form of text and voice with 91% accuracy.

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