**ABSTRACT**

Communication is the exchange of thoughts, messages, or information, by speech, visual signals, writing, or behaviour. Deaf and dumb people communicate among themselves using sign languages, but they find it difficult to expose themselves to the outside world. This paper proposes a method for recognizing Indian sign language characters given as input by the user in the form of hand gestures. Unlike the conventional method, this method does not require any additional hardware and makes the user comfortable. The system takes input at real time through a webcam integrated in the laptop. The hand region is separated out from the background using skin segmentation and motion segmentation. The ISL characters are shown in a way that they resemble the character itself. There are 18 ISL characters which are shown using two hands and 8 characters which are shown using single hand. The single hand characters can be identified using the number of open fingers, the angle between the fingers and their state. But the two hand characters have both the hands overlapped hence making it difficult to segregate them and identify the state of fingers. So, two hand characters are identified using HOG features. Neural network is used as the learning algorithm to make the system adaptable for different users. The system has been tested by several people of varying skin complexions, in several environments and was found to have accuracy of about 90%. The accuracy mainly dropped due to the illumination of the environment and occlusion of hands involved in two hand gestures.