

Online Hand Gesture Recognition & Classification for Deaf & Dumb

ABSTRACT:

Sign language is widely used by individuals with hearing impairment to communicate with each other conveniently using hand gestures. However, non-sign-language speakers find it very difficult to communicate with those with speech or hearing impairment since interpreters are not readily available at all times. Many countries have their own sign language, such as American Sign Language (ASL) which is mainly used in the United States and the English-speaking part of Canada. The proposed system helps non-sign-language speakers in recognizing gestures used in American Sign Language. The system described in this paper is implemented using MATLAB. In this approach, firstly, the signs are captured using a webcam. The images captured are then processed further and the features are extracted from the captured images using PCA. Comparison of the features is done using Euclidean Distance with the training sets. Minimum Euclidean distance helps to recognize the character. This system will enable non-sign-language speakers to better understand and communicate with those with impaired hearing.

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