Abstract

Sign Language Recognition has emerged as one of the important area of research in Computer Vision. The difficulty faced by the researchers is that the instances of signs vary with both motion and appearance. Thus, in this paper a novel approach for recognizing various alphabets of Indian Sign Language is proposed where continuous video sequences of the signs have been considered. The proposed system comprises of three stages: Preprocessing stage, Feature Extraction and Classification. Preprocessing stage includes skin filtering, histogram matching. Eigen values and Eigen Vectors were considered for feature extraction stage and finally Eigen value weighted Euclidean distance is used to recognize the sign. It deals with bare hands, thus allowing the user to interact with the system in natural way. We have considered 24 different alphabets in the video sequences and attained a success rate of 96.25%.

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Index Terms

Computer Science
Pattern Recognition
Keywords

Indian Sign Language (ISL)  Skin Filtering  Eigen value  Eigen vector  Euclidean Distance (ED)

Computer Vision