Sign language is the basic medium of communication for the deaf and dumb people. It has evolved as one of the major areas of research and study in Computer Vision. In this paper we display the importance of Indian Sign Language and proposed techniques for feature extraction and their efficient results. Indian Sign Language has a total of 26 alphabets using either one hand or both hands to show the sign. With the help of energy compaction using discrete cosine transform, maximum energy is packed into lows frequency region. In order to ensure efficient feature extraction and enabling feature vector size to be as small as possible, this paper proposes a novel technique to perform feature extraction and obtain high efficiency. Two techniques have been proposed with regard to reduced complexity and give better efficiency out of which the second approach of considering a feature vector of size 3 has been proved to be the best. It results in least computational complexity in query optimization and further gives 84.61% accuracy in detection of signs.
This paper presents the comparison among various transforms for feature extraction from hand sign images. The proposed techniques for feature extraction are executed on a dataset of 260 images (consisting of 10 images of each alphabet).

**References**

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**Index Terms**

Computer Science

Pattern Recognition
Keywords

Feature extraction, DCT, Energy compaction, Feature vector.