Abstract

Hand gesture recognition is one of the leading applications of human computer interaction. With diversity of applications of hand gesture recognition, sign language interpretation is the most demanding application. In this paper, dynamic hand gesture recognition for few subset of Indian sign language recognition was considered. The use of depth camera such as Kinect sensor gave skeleton information of signer body. After detailed study of dynamic ISL vocabulary with reference to skeleton joint information, angle has identified as a feature with reference to two moving hand. Here, real time video has been captured and gesture was recognized using Hidden Markov Model (HMM). Ten state HMM model was designed and normalized angle feature of dynamic sign was being observed. Maximum likelihood probability symbol was considered as a recognized gesture. Algorithm has been tested on ISL 20 dynamic signs of total 800 training set of four persons and achieved 89.25% average accuracy.


Index Terms

Computer Science          Pattern Recognition

Keywords

Indian Sign Language, Dynamic hand gesture recognition, Hidden Markov Model