Abstract

Sign language is a natural language that uses different means of expression for communication in everyday life. As compare to other sign language ISL interpretation has got less attention by researcher. This paper presents an Automatic translation system for gesture of manual alphabets in Marathi sign language. It deals with images of bare hands, which allows the user to interact with the system in a natural way. System provides an opportunity for deaf persons to communicate with normal people without the need of an interpreter. We are going to build a systems and methods for the automatic recognition of Marathi sign language. The first step of this system is to create a database of Marathi Sign Language. Hand segmentation is the most crucial step in every hand gesture recognition system since if we get better segmented output, better recognition rates can be achieved. The proposed system also includes efficient and robust hand segmentation and tracking algorithm to achieve better recognition rates. A large set of samples has been used to recognize 43 isolated words from the Standard Marathi sign language. In proposed system, we intend to recognize some very basic elements of sign language and to translate them to text and vice versa in Marathi language.
- Master's thesis, University of Surrey.

**Index Terms**

Computer Science  
Information Sciences

**Keywords**

- Marathi sign language  
- Marathi alphabets  
- Hand gesture  
- Web-camera  
- HSV image  
- Colour based hand extraction  
- Centre of gravity.