Abstract

In recent years, enormous research is progressing in the field of Computer Vision and Human Computer Interaction where hand gestures play a vital role. Hand gestures are more powerful means of communication for hearing impaired when they communicate to the normal people everywhere in day to day life. As the normal people find little difficulty in recognizing and interpreting the meaning of sign language expressed by the hearing impaired, it is inevitable to have an interpreter for translation of sign language. To overcome this difficulty, an automatic hand gesture recognition system which translates the sign language into text needs to be developed. In this paper, a static hand gesture recognition system for American Sign Language using Edge Oriented Histogram (EOH) features and multiclass SVM is proposed. The edge histogram count of input sign language alphabets is extracted as the features and applied to a multiclass SVM for classification. The average accuracy of the system is compared with different number of features and the experimental findings demonstrate that the proposed method gives a success rate of 93.75%.

References
- ASL Dataset. http://personal.ee.surrey.ac.uk/
- SVM-Support Vector Machines: www.dtreg.com/SVM.htm
- Courant, Richard, and David Hilbert. "Methods of Mathematical Physics, Vol. 1".

Index Terms

Computer Science

Pattern Recognition

Keywords

Hand Gesture Recognition  Sign Language Recognition  Human Computer Interaction  Feature  
Extraction
Edge Oriented Histogram

Support Vector Machine.