A Paper on Sign Language Recognition Using Machine Learning

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Abstract: *This paper proposes a way to communicate with deaf and dumb people. An Sign Language is very useful way to exchange thought with heard of hearing people. In this work sets, included features and variation in the language with locality have been the major barriers which has led to little research being done in Indian Sign Language. Currently, we have implemented validated results and then stored it into dataset, and the difference from the previous work done can be accredited to the fact that in our result the dataset containing images of a letters different from the letter in the training set.*

Keywords: CNN, SVM, DFD, WWW, ISL

I. INTRODUCTION

Humans have a many different methods for exchanging of information with each other. This encloses acts like bodily gestures, face expressions, spoken words, etc. Therefore, people who are having difficulty on hearing are restricted to exchange of information with hand movement. People with sense of hearing disorder and/or articulation disorder uses a standardized sign language which unable to recognize by people who are unaware of it. As well as, getting sign language is obstructed by their disorder. In a present day learning and translation tool for sign language followed in Machine Learning could be somewhat influence the easiness of Sign Language exchange of information.
This tool or device will intent to carry out the following:

- Acquire a image feed from the camera.
- Classify and display the equivalent alphabets into text.

This system has goal to consider difficulties and identify Sign Language characters.

II. LITERATURE SURVEY

We have done a lot of research on internet and analyzed currently available systems. The systems available in real world are of taking input as video or hand gestures. We have decided project of doing recognizing sign language character through camera and convert it into text format.

III. PROPOSED WORK

This paper Sign Recognition Using Machine Learning application uses simple OpenCV library without the additional requirement of the hardware for collecting the input of simple hand gestures. This is done using vision-based hand gesture recognition with inputs from a webcam or camera.

3.1 Proposed Architecture
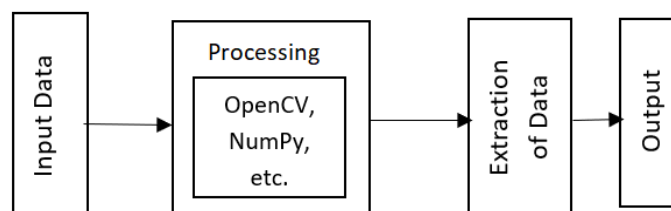
In this hand gesture recognition system, we use traditional camera-based hand gesture recognition systems for recognizing our hand motions. And that motions are our input and the first step use of our model. Then processing and extraction of these hand gesture using machine learning libraries. it will shows alphabet conversion in text format.
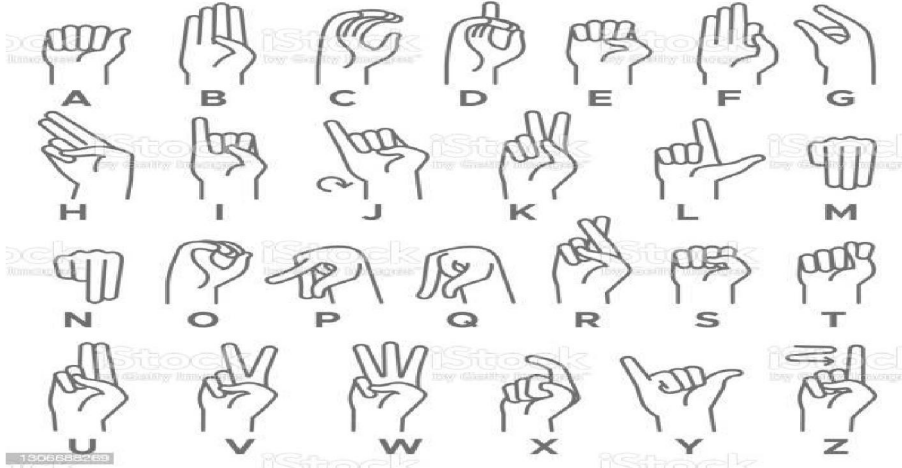
By using this images of hand gestures for alphabet we collecting input from camera and it will store in dataset for training and testing of system then it will be converted into text.

The following is the result of the project which is taking input as image for alphabet letter and showing suggestion for text to build the sentence.
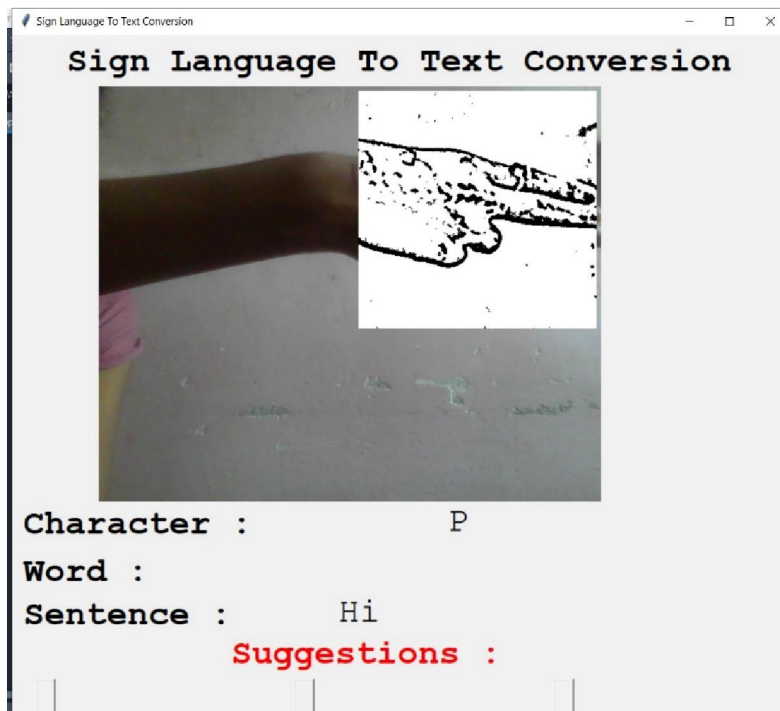
IV. CONCLUSION

Sign language recognition system is a powerful machine learning project to prepare an expert knowledge, edge detect and to help the deaf and dumb people to communicate with them.

V. ACKNOWLEDGMENT

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