

Final Year Project Report
Project Name
Pakistan Sign Language to Natural Language



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University of Management and Technology
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Dedication

We commit our work to the hard of hearing group everywhere throughout the globe with the goal that they get to be equivalent to ordinary people. In this exploration work we are principally worried with taking care of day by day life correspondence issues confronted by listening to hindered people. We are doing this venture as a serving to humankind and hard of hearing group as Sadqa-e-Jaaria.

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ABSTRACT

In this thesis, Pakistan Sign Language to Natural Language System has been proposed. To conquer any hindrance between deaf and an ordinary individual, we need to think of a framework, which can make an interpretation of one dialect to another. The effective communication method between deaf community and many other dictionaries of words have been defined to make the communication possible is Sign Language. A gesture is recorded by Kinect, which gives in-depth vision image and color vision image of everything in front of it. We extract only depth stream from it as we need only skeletal data in our case. By Extracting, feature vector against every gesture and after its normalization and classification the English text word against each gesture will be generated as a result.

For this we have proposed a system which takes an PSL gesture as an input and will produce its comparable English word. Our proposed framework uses a few tools and methods, as after normalization we concluded a frame descriptor. When it comes out to be last gesture of frame, we summarize all the saved frame descriptors by summarizing them. Each row represents a frame, and this is called Feature Vector. After doing this process each row will represent a gesture and our classifier to build model, so it can be used for prediction can use this data. Last but not the least a English word is created from this method.

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REVISION CHART

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1 INTRODUCTION

Humans have been endowed by nature with the voice capability and they communicate and interact with each other using that voice capability. Hence, the spoken language becomes one of the main feature of humans. Unfortunately, not everybody have this blessing of hearing and speaking and we call them deaf people. So this gap is filled by Sign language which is the basic communication method between deaf people.

A language is mod of communication among human beings. There exists numerous languages for human being to interact with each other. These languages can be written or spoken but among these languages, there is a special kind of language, which is neither written nor spoken. This is known as Sign Language which is developed in deaf communities. They use their hands, face, arm and body and perform gestures for communication. It has its own syntax and grammar. Sign languages are not universal. These languages changes from one region to another. Every country is having their own sign language, which varies from another country in syntax and grammar.

1.1 History

In the 16th century Geronimo Cardano, a physician in Padua, Italy, declared that the deaf can learn to understand the characters as comparing it with what they represent. In 1775, Abbas Charles from Paris, France, founded the first Free Bilingual School. He taught the deaf to make connections with gestures and fingers (using the alphabet of characters to write words). L'Epee first explores the signs and gestures already used by deaf people in Paris. This can help him to sign the French language. He paved the way to fill the gap between trial and absentee world. Here are some famous sign languages.

1.1.1 American Sign Language

In the United States, Secretary of State Thomas H. Gallaudet, who began to be impressed with the young deaf daughter of his neighbor, went to Europe in 1815 to study the method of communicating with the deaf. While in England, the 27-year-old met Abbe Roche Ambroise Sicard, who invited him to study at his blind school in Paris. A few months later, Gallut returned to the United States. Together, he brought Laurent Clair as a permanent language teacher from a Paris school. Gallete established the first Deafening School in the United States. The school was located in Hartford, Connecticut, and Claire became the first language teacher in the United States. Then, many deaf schools have opened the door throughout the country. Twenty-two schools were established in 1863.

The CSA contains certain components such as body movements and body movements. ASL is not a form of pantomime, but literature plays a larger role in ASL than spoken language. English words often borrowed by fingers, although ASL grammar is not related to English. All signs of 26 alphabets are given in figure 1.

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