Bahria University
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FINAL YEAR PROJECT REPORT

SPEECH-O-SPECIAL A SIGN LANGUAGE TRANSLATOR USING MOBILE DEVICES

In fulfillment of the requirement
For degree of Bachelors in INFORMATION TECHNOLOGY (BS-IT)

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SPEECH-O-SPECIAL: A SIGN LANGUAGE TRANSLATOR USING MOBILE DEVICES

ABSTRACT

The objective of this project is to develop a mobile application which can bridge the gap of communication between the deaf and dumb people and normal people. The application works as a translator for analyzing and converting Sign Language gestures into Urdu Language. It also focuses to provide mobility and achieve efficiency and effectiveness. Deaf and speech impaired have limitations in terms of communication. Researchers are keen to develop a technology translator is able to translate sign language into written language. Growing technology is still limited to the PC based translator. We are interested in developing the mobile translator shaped because of its simplicity that can be brought in mobile.

We are making an Android-based application that can directly interpret hand gestures submitted by deaf speech into written language. Translation process begins from the hand detection using OpenCV and translation of hand signals with the Real Time Image Processing and machine learning. Finally displaying the result on user screen in textual form by converting the Sign Language. Tutorial features added in this application with the aim to train intensively to users in the use of sign language. As it is still a research area so there are some limitations too which will surely be eliminated in the future work. Recommendations for future development and conclusions are also included in the report.

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