

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY

COMPUTER SCIENCE AND ENGINEERING

REAL-TIME COMMUNICATION SYSTEM POWERED BY AI FOR SPECIALLY ABLED

Problem Statement

In our society, we have people with disabilities. The technology is developing day by day but no significant developments are undertaken for the betterment of these people. Communications between deaf-mute and a normal person has always been a challenging task. It is very difficult for mute people to convey their message to normal people. Since normal people are not trained on hand sign language. In emergency times conveying their message is very difficult. The human hand has remained a popular choice to convey information in situations where other forms like speech cannot be used. Voice Conversion System with Hand Gesture Recognition and translation will be very useful to have a proper conversation between a normal person and an impaired person in any language.

The project aims to develop a system that converts the sign language into a human hearing voice in the desired language to convey a message to normal people, as well as convert speech into understandable sign language for the deaf and dumb. We are making use of a convolution neural network to create a model that is trained on different hand gestures. An app is built which uses this model. This app enables deaf and dumb people to convey their information using signs which get converted to human-understandable language and speech is given as output

Approach

- Communication plays a significant role in making the world a better place. Most people communicate efficiently without any issues, but many cannot due to disability.
- They cannot hear or speak, which makes Earth a problematic place to live for them. Even simple basic tasks become difficult for them.
- Disability is an emotive human condition, Being deaf and dumb pushes the subject to oblivion, highly introverted.
- How artificial intelligence is being used to help people who are unable to do what most people do in their everyday lives.
- Technology should create a platform or a world of equality despite the natural state of humans.

Benefits

- To help people overcome physical and cognitive challenges