**Real-Time Communication System Powered by AI for Specially Abled**

**PROBLEM STATEMENT**

**Why do we need a real time communication system for the specially abled?**

According to the times now survey, the Indian population consists of about 30 percent disabled people, And of that 20 percent are deaf and mute. The only chance of communication is the sign language but it’s practically not feasible that everyone study the sign language. Technology has risen to unprecedented rates which also comes with a leeway for the disabled people. With the help of technology, 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.

**OUR PLAN:**

The aim of this project is to create a software that does not only convert sign language into text and speech but also translates speech into sign language in real time and as quick as the person speaks. We will be using a deep learning model like CNN for this project. CNN is used for image classification and classifies the object into the respective classes and does the object detection accordingly. An app is built which uses this model. This app enables deaf and mute people to convey their information using signs which gets converted to human-understandable language and speech is given as output.

**ABSTRACT**

Technology is the need of the hour and with rising developments in Technology, so does the need for the disabled people. This project aims at the welfare of disabled people. We will be using Flask framework for the development of application. Then, an image is fed into a model, and prediction of the image takes place, and it evaluates accordingly. It is then sent to a neural network model, we will be using a convolutional neural network model that trains and tests data. Image pre-processing happens using various image classification techniques. Finally the signs are converted to speech and the vice versa happens on the application we created.