

# IDEATION

In today's world, there are many specially abled people who face difficulty in doing things on their own. Communication for dumb people has been a hectic task. So this defect may even affect their perspective towards life. Many different researches have been made but there aren't any significant developments. So a device system is proposed to overcome this.

## OBJECTIVE:

The purpose to develop this system is to facilitate the communication between deaf, dumb and normal people. A dumb person usually communicates using hand gestures, and a normal person can understand things either by text or voice. So in this device, the hand gestures are translated into a voiceover, so that a normal person can understand, and the reply voiceover from the normal person is translated as hand gestures and they are shown on the software device. For this process, a model is created where the different hand gestures are trained and for this CNN (Convolutional Neural Network) is used. This whole model is used in an app, which ensures the conversion of signals.

## PROJECT STRUCTURE:

First we have to train the computer, to handle the incoming hand gesture signals, for that we use train and test folders, one for building the model for the user, other for ensuring the incoming gesture and comparing respectively. Next we do image preprocessing (i.e.) after building the model full of hand gesture images, characteristics of the image like size to ensure the robustness of the model. Now we pass the images to make predictions like the test image should be accurate to target image size. For app development, we develop a flask application using HTML. Then we train the image classification model.