

# **Sign Language Translator**

Sign language is used by impaired people all over the world. Sign language is not universal, different countries have their own sign language but here we are going to focus on ISL i.e. Indian Sign Language. There are many training centers, schools and universities where ISL is being used and taught but still people are not much aware about it and there is still a barrier between impaired people and normal people. So, here we are trying to develop a translator that anyone can use to translate sign language into text or audio. This is will be a real time application that anyone can easily install and setup in their gadgets and require a camera to capture the movements and it will translate it for you.

## **AIM**

The main aim for building this is to remove the language barrier between people and aware people about sign language. It will also help people who want to learn sign language, it will help to them to understand and visualize the concept of sign language through animations. This will help people in communicate their thoughts easily without thinking of language barriers. We are going to use Python language to build this project. Will use machine learning and deep learning techniques to build models and compare them to know which model is giving high accuracy.

## **Objective**

- Collect data and develop the dataset
- Apply data preprocessing methods
- Build a model using ML techniques
- Train and Test the model
- Build a user friendly UI

## Required Tools

- **Python** – To do the programing.
- **Machine Learning and Deep Learning** – Algorithms to build a model: -
  - **Tensorflow**
  - **Scipy**
  - **Numpy**
  - **SVM**
  - **OpenCV**
  - **CNN**
  - **DNN**
- **HTML, CSS and JavaScript** – To build an interactive user friendly UI.