

# Audio to Sign Language Detection and Sign Language to Audio Detection

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**Abstract:** Every Language has syntax and set of rules for connecting words to make statements. In Sign Language, also, there are different signs used by deaf and dumb people for communicating with others. To make a conversation with the deaf and dumb people, we have to learn sign language which is a difficult task. If a person is speaking with a hearing impaired person, he may or may not understand the speaker and the speaker also cannot understand the sign language of the hearing impaired person. So, it is necessary to learn the Sign Language if a person wants to make an understandable conversation with the deaf and dumb people. This proposed model is a desktop-based app, designed and developed using Python programming language, and the technology used is Deep learning. Convolutional Neural Network (CNN) is a Deep Learning Technique used for analysing the camera feed and to detect the signs. This model is capable of taking inputs in both image and speech format and can convert the hand gestures into text form as well as the audio into sign language. Also, can recognize the letter written in the air. The output of this model is displayed on the screen of the user's desktop in the form of text and images. The main aim of the proposed model is to bridge the communication gap between common people and the deaf and dumb people. The objective of this project is to achieve a state-of-the-art accuracy and bridge the communication gap between the normal people and physically challenged ones.

**Keywords:** Artificial Intelligence, Industry, intents, examples

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