ABSTRACT
Sign Language Detection

Gesture recognition is an emerging topic in today's technologies the main focus of this it recognize the human gestures using mathematical algorithms for human computer interactions .Gestures can be originated from any bodily motion or state but commonly originate from face or hand .Gesture recognition enables users to understand the meaning of signs conveyed by deaf people. Sign languages are languages that use the visual-manual modality to convey meaning. They are fully-fledged natural languages with their own grammar and lexicon. Sign languages are not universal and are usually not mutually intelligible, although there are similarities among different sign languages, Although signing is used primarily by deaf and hard of hearing, it is also used by hearing individuals, such as those unable to physically speak, those who have trouble with spoken language due to disability or condition or those with deaf family members, such as children of deaf adults.

Sign language recognition is a problem that has been addressed in research for years. However, we are still far from finding a complete solution available in our society. Among the works developed to address this problem, the majority of them have been based on basically two approaches: contact -based systems such as sensor gloves; or vision based systems, using only cameras. The latter is way cheaper and the boom of deep learning makes it more appealing. A machine learning model can be trained to recognise different gestures of sign language and translate them to English. The existing American Sign Language (ASL) can recognise single and double handed gestures from stills. This helps a lot of people in communicating and conversing with deaf and dump people but most of the existing systems do not support either real time translation, nor text conversion and editing.

The intention of the project is to develop a user friendly platform which has the capability of sign language to text translation. Computer vision and machine learning can be integrated to a system of proposed features mobile cameras can be used to view the person in front of the user to identify the gestures in real time, for conversion to text which can be edited by the user. The crucial stage in this process is the identification of gestures from the stream of frames generated by the video input device with least possible error. Also there include text to speech conversion system which can be useful for illiterate people.

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