

# REAL-TIME COMMUNICATION POWERED BY AI FOR SPECIALLY-ABLED

| S.No | TITLE   | PROPOSED WORK   | TOOLS USED/<br>ALGORITHM  | TECHNOLOGY  | ADVANTAGES/<br>DISADVANTAGES   |
|------|---|---|---|---|--|
| 1    | Artificial Intelligence enabled virtual sixth sense application for the disabled                                | The sixth sense is a multiplatform app for aiding people in need that is people who are handicapped in the form of lack of speech (dumb), lack of hearing (deaf), or lack of sight (blind). | <ul style="list-style-type: none"> <li>❖ ML OCR kit</li> <li>❖ Firebase ML toolkit</li> <li>❖ Google Web toolkit TTS</li> </ul>                                       | <ul style="list-style-type: none"> <li>❖ Android smartphones</li> <li>❖ Object Detection</li> <li>❖ Text Recognition</li> <li>❖ AP</li> </ul> | Help dumb people to easily and quickly communicate with normal people./The application still does depend on the camera picture quality for object detection                  |
| 2    | Design of a Communication System using Sign Language aid for Differently Aabled Peoples.                        | Our goal is to design a human computer interface a system that can accurately identify the language of the deaf and dumb.   | <ul style="list-style-type: none"> <li>❖ Feature Extraction</li> <li>❖ Sign to text and Speech Conversion</li> <li>❖ Image preprocessing and segmentation.</li> </ul> | <ul style="list-style-type: none"> <li>❖ Blob Detection</li> <li>❖ Skin color recognition</li> <li>❖ Template Matching</li> </ul>             | Hand gestures of deaf people by normal peoples this system is proposed and it gives output in the form of sound./A mediator is required to know the sign language            |
| 3    | D-Talk: Sign Language Recognition System for People with Disability using Machine Learning and Image Processing | D-talk is a system that allows people who are unable to talk and hear and for them to learn their language easier and also for the people that would interact with them.                    | <ul style="list-style-type: none"> <li>❖ Image Recognition process</li> <li>❖ Object Detection</li> <li>❖ Gesture Recognition</li> <li>❖ HSV Algorithm.</li> </ul>    | <ul style="list-style-type: none"> <li>❖ Machine learning</li> <li>❖ Deep learning</li> <li>❖ Decision tree</li> </ul>                        | Speech interpretation is helpful for sign language nonspeakers who wants the hand sign to understand./ The type of inaccuracy can emerge from users, such as poor web camera |

|   |   |  |  |  |   |
|---|---|--|--|--|---|
| 4 | Real-time Communication System for the Deaf and Dumb      | Aims to aid the deafmute by creation of a new system that helps convert sign language to text and speech for easier communication with audience.   | <ul style="list-style-type: none"> <li>❖ Flex sensor</li> <li>❖ Arduino Uno</li> <li>❖ Arduino IDE</li> </ul>                          | <ul style="list-style-type: none"> <li>❖ Python Programming Language</li> <li>❖ Gesture recognition</li> </ul> | The system forms the base infrastructure for a complete communicational aid system for the deaf and mute./it requires logical mechanism for classification of letters based on sensor values.           |
| 5 | AN ANDROID APPLICATION TO AID UNEDUCATED DEAF DUMB PEOPLE | In this paper, we introduce an integrated android application to blend uneducated DeafDumb people within society, and help them to communicate with normal people.                                     | <ul style="list-style-type: none"> <li>❖ Sign language keyboard app</li> </ul>   | <ul style="list-style-type: none"> <li>❖ Eclipse</li> <li>❖ SQL Lite</li> <li>❖ Java</li> </ul>                | Offer a great tool for parents to teach their deaf and dumb kids And Introduce Sign language keyboard./this application introduces an easy translator from sign language to English or Arabic language. |
| 6 | A Sign Language Recognition for The Deaf and Dumb         | It is a software which presents a system prototype that is able to automatically recognize sign language to help deaf and dumb people to communicate more effectively with each other or normal people | <ul style="list-style-type: none"> <li>❖ Gesture classification</li> <li>❖ CNN model</li> <li>❖ Hand gesture</li> <li>❖ ANN</li> </ul> | <ul style="list-style-type: none"> <li>❖ OpenCV feature extraction</li> </ul>                                  | A functional real time vision based American sign language recognition for Deaf and Dumb people have been developed with accuracy of 92%. /We couldn't find any existing dataset.                       |