LITERATURE SURVEY

REAL-TIME COMMUNICATION SYSTEM POWERED BY AI FOR SPECIALLY ABLED

PREPARED BY

JEEVITHA P

MUTHU LAKSHIMI K

SHUBA KEERTHI M

SATHYA M

TITLE	AUTHOR	YEAR	THEME	IDEA
full duplex intelligent communication system for deaf and dumb people	Surbhi Rathi Ujwalla Gawande	2017	intelligent communication system for deaf and dumb people	make a dual way **communication** system between **deaf dumb** and normal people my full duplex system first the recognized gesture has converted into text message and voice format, so that normal person can understand it. Second, voice has converted into text message and its corresponding gesture, so that physically impaired humans can understand it.
Multimodal Interface for Deaf and Dumb Communication	Wazalwar, Sampada S. and Shrawankar, Urmila	2019	Creating a multimodal interface between deaf, dump and normal people	Deaf & Dumb can use multimodal interfaces for communication such as image, video, Leap reading, air writing, finger spelling & body gestures etc. Everyone is unable to learn sign language efficiently thus multimodal interface can serve the purpose of communication.Ξ
Image-based Bengali Sign Recognition for Deaf and Dumb	Rafi, Abdul Muntakim and Nawal, Nowshin and Bayev, Nur Sultan Nazar	2019	relies on the images of bare hands, which allows the users to interact with the system in a natural way.	They have collected in total 12581 different hand signs for the 38 BdSL alphabets in collaboration with the National Federation of the Deaf. They proposed a VGG19 based convolutional neural network for the recognition of 38 classes

				and achieve an overall test accuracy of 89.6%.
Sign Language Recognition for Deaf and Dumb People Using Android Environment	A.Gayathiri A.Sasi kumar	2017	Android application development powered by VRS that translates spoken and written words into sign language	Speech-to-sign technology and VRS enables audible language translation on smart phones with signing and application has characters feature in mobile without dialing number uses a technology that translates spoken and written words into sign language with video.
Assistive Sign Language Converter for Deaf and Dumb	Boppana, Lakshmi and Ahamed, Rasheed and Rane, Harshali and Kodali, Ravi Kishore	2019	This device allows the person to communicate with sign hand postures in order to recognize different gestures based signs.	The controller of this assistive device is developed for processing the images of gestures by employing various image processing techniques and deep learning models to recognize the sign. This sign is converted into speech in real-time using text-to-speech module.

Hand Gesture Recognition for Deaf and Dumb Using CNN Technique	Vanaja, S. and Preetha, R. and Sudha, S.	2021	A Hand gesture recognition system to aid deaf and mute is developed using convolutional neural networks to identify the static signs of ISL (Indian Sign Language)	A total of 4 layers and 16 filters were used in Convolution Neutral Network (CNN) Architecture based on Deep learning technique. Adam optimizer has been used as the optimizer to tweak the weighs of the model is useful for reducing the loss and improving the accuracy. Model is trained in total of 15 epochs. The optimizer used to train and validate process is Stochastic Gradient Descent (SGD). The proposed model gives the maximum possible training accuracy of about 99.76%.
Hand Gesture Recognition and Voice Conversion for Deaf and Dumb	Rupesh Prajapati1, Vedant Pandey2, Nupur Jamindar3, Neeraj Yadav	2018	Conversion of recognized image which was taken from a normal person who tries to interact with deaf people .convert this information into voice or text for deaf and dump	provides a powerful tool for data analysis and pattern recognition which is often used in signal and image processing as a technique for data compression, data dimension reduction or their decorrelation as well.

			people	
Real time sign language interpreter	Nath, Geethu G and Arun, C S	2017	applications including gesture-controlled activities like human computer interaction, gesture-controlled home appliances and other electronic devices and many applications that uses gesture as the trigger input.	system for sign language recognition for deaf and dumb people is implemented in ARM CORTEX A8 processor board using convex hull algorithm and template matching algorithm. Image is obtained using webcam. This hand sign image is converted to text so as to develop a communication between normal and deaf and dumb people. Open CV is the software tool that provides the support with image processing techniques. The system converts sign language to text for deaf and dumb people to communicate with normal people
American Sign Language Recognition System: An Optimal Approach	Shivashankara S Srinath S	2018	ASL provides a set of 26 gesture signs named as an American Manual Alphabet that can be cast-off to spell out many of the	Pre-processing operations of the signed input gesture are done in the first phase. In the next phase, the various region properties of pre-processed gesture image is computed. In the final phase, based on the properties calculated of earlier phase, the

			English words available. The 19 various hand shapes of ASL are cast-off to make 26 American Manual Alphabets. An identical hand shape with diverse orientations is used for 'K' and 'P' letters signs. In ASL, also offers a set of 10 numeric gestures to sign the numbers ‘0’ to ‘9’. ASL doesn’t comprises built-in ASL equivalents signs for accurate nouns and technical terms.	transliteration of signed gesture into text has been carried out The sign language (SL) is made by specifications of hand and facial idioms to express their views and thoughts of speech and hearing disabled persons with the normal (speech and hearing) people. Most of the normal persons may not clearly understand the sign language. Therefore, there is a massive communication gap between the deaf communities with the general public

[1] JEEVITHA PALANISAMY

FINAL YEAR ECE

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY-THENI

TAMIL NADU-INDIA

[2] MUTHU LAKSHMI KUMARESAN

FINAL YEAR ECE

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY-THENI

TAMIL NADU -INDIA

[3] SHUBA KEERTHI MALAICHAMY

FINAL YEAR ECE

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY-THENI

TAMIL NADU -INDIA

[4] SATHYA MUTHUPANDI

FINAL YEAR ECE

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY-THENI

TAMIL NADU -INDIA

REFERENCE:

GOOGLE SCHOLAR.