REAL-TIME COMMUNICATION SYSTEM POWERED BY AI FOR SPECIALLY ABLED

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S.No.	Title	Author	Abstract
1.	Communication Device for Differently Abled People: A Prototype Model	Rajat Sharma Vikrant Bhateja S. C. Satapathy Swarnima Gupta	The process of communication between marginalized communities like deaf-blind-dumb people has always been a matter of great concern and these differently abled people are not able to easily communicate their thoughts and talks with other people as normal people does by using mobile phones, etc. So, it is the greatest need of this hour to think and act upon the development of such people as they are also the equal part of our society. The proposed model in this paper, proposes a finely tuned solution to mitigate this problem of ever-increasing communication gap between differently abled people and normal people. The architecture of this portable device is presented and its operations are discussed via three embedded algorithms for faster, easier, and accurate message communication.
2.	Sign Language Recognition using Python and OpenCV	Dipalee Golekar Ravindra Bula Rutuja Hole	This paper focuses on a review of the literature on hand gesture techniques and introduces their merits and limitations under different circumstances. The theories of hand segmentation and

		Sidheshwar Katare Prof. Sonali Parab	the hand detection system, which employ the Haar cascade classifier, may be used to construct hand gesture recognition using Python and OpenCV. The use of hand gestures as a natural interface motivates research in gesture taxonomies, representations, and recognition algorithms, as well as software platforms and frameworks, all of which are briefly covered in this paper. We represent a comprehensive review of vision-based sign recognition algorithms published in the previous 16 years, emphasising the importance of taking these things into consideration in addition to the algorithm's recognition accuracy when predicting its successful in real world applications.
3.	Sign Language Recognition	Muskan Dhiman	The project aims at building a machine learning model that will be able to classify the various hand gestures used for fingerspelling in sign language. In this user independent model, classification machine learning algorithms are trained using a set of image data and testing is done on a completely different set of data. For the image dataset, depth images are used, which gave better results than some of the previous literatures [4], owing to the reduced pre-processing time. Various machine learning algorithms are applied on the datasets, including Convolutional Neural Network (CNN). An attempt is made to increase the accuracy of the CNN model by pre-training it on the Imagenet dataset. However, a small dataset was used for pre-training, which gave an accuracy of 15% during training.
4.	D-Talk: Sign Language Recognition System for People	Bayan Mohammed Saleh	Technology is the most innovative thing on Earth for every time the clock ticks, researchers, software

	with Disability using Machine Learning and Image Processing	Reem Ibrahim Al-Beshr Muhammad Usman Tariq	engineers, programmers, and information technology specialists are always coming up with bright ideas to provide convenience to everyone. This paper shows how artificial intelligence is being used to help people who are unable to do what most people do in their everyday lives. Aligned with communication, D-talk is a system that allows people who are unable to talk and hear be fully understood and for them to learn their language easier and also for the people that would interact and communicate with them. This system provides detailed hand gestures that show the interpretation at the bottom so that everyone can understand them. This research allows the readers to learn the system and what it can do to people who are struggling with what they are not capable of and will provide the technical terms on how the system works.
5.	An innovative communication system for deaf, dumb and blind people.	Anisha Kumar R. Raushan S. Aditya Vishal Kumar Jaiswal	One of the most precious gifts to a human being is an ability to see, listen, speak and respond according to the situations. But there are some unfortunate ones who are deprived of this. Making a single compact device for people with Visual, Hearing and Vocal impairment is a tough job. Communication between deaf-dumb and normal person have been always a challenging task. This paper proposes an innovative communication system framework for deaf, dumb and blind people in a single compact device. We provide a technique for a blind person to read a text and it can be achieved by capturing an image through a camera which converts a text to speech (TTS). It provides a way for the deaf people to read a text by speech to text (STT) conversion technology. Also, it

			provides a technique for dumb people using text to voice conversion. The system is provided with four switches and each switch has a different function. The blind people can be able to read the words using by Tesseract OCR (Online Character Recognition), the dumb people can communicate their message through text which will be read out by espeak, the deaf people can be able to hear others speech from text. All these functions are implemented by the use of Raspberry Pi.
6.	A Face Based Real Time Communication for Physically and Speech Disabled People	Ong Chin Ann Marlene lu Bee Theng Lau	The main purpose of this research is to enhance the communication of the disabled community. The proposed model comprises of automated real time behaviour monitoring, designed and implemented with the ubiquitous and affordable concept in mind to suit the underprivileged. The authors present the prototype which encapsulates an automated facial expression recognition system for monitoring the disabled, equipped with a feature to send Short Messaging System (SMS) for notification purposes. The authors adapted the Viola-Jones face detection algorithm at the face detection stage and implemented template matching technique for the expression classification and recognition stage.