IDEATION PHASE

LITERATURE

SURVEY

Date	18th September 2022
Team ID	PNT2022TMID3586
Project Name	Real-Time Communication System Powered by AI for Specially Abled

Authors	Paper Title	Publication	Remarks
Stephanie Stoll, Necati Cihan Camgoz, Simon Hadfield, Richard Bowden	Text2Sign: Towards Sign Language Production Using Neural Machine Translation and Generative Adversarial Networks	International Journal of Computer Vision (2020),Springer	They have trained an NMT network to obtain a sequence of gloss probabilities that is used to solve a Motion Graph (MG) which generates human pose sequences.Then a poseconditioned sign generation network with an encoder-decoder-discriminator architecture produces the output sign video .
Amandeep Singh Dhanjal, Williamjeet Singh	An optimized machine translation technique for multi-lingual speech to sign language notation	Multimedia Tools and Applications(2022), Springer	In the proposed methodology, the HamNoSys notation system is used that renders ISL gestures with the help of SiGML and a 3D avatar. ISL corpus is prepared using an eSign editor that provides Graphical User Interface (GUI) to write and test the HamNoSys script.
Babita Sonare, Aditya Padgal, Yash Gaikwad, Aniket Patil	Video-Based Sign Language Translation System Using Machine Learning	International Conference for Emerging Technology (INCET), 2021.(IEEE)	The combination of two deep learning algorithms, CNN and RNN are used for automated sign language recognition. The system will then be able to translate the recognized sign language to

			desired text and then to speech for further communication using open-source Text-To-Speech API with python.
Mahesh Kumar N B	Conversion of Sign Language into Text	International Journal of Applied Engineering Research ISSN 0973-4562 Volume 13, Number 9 (2018)	In this model, the Linear Discriminant Analysis (LDA) algorithm was used for gesture recognition and recognized gesture is converted into text and voice format.
P. Vijayalakshmi and M. Aarthi	Sign language to speech conversion	2016 International Conference on Recent Trends in Information Technology (ICRTIT)	They have designed a sensor-based gesture recognition module that recognizes English alphabets.
Abey Abraham, V Rohini	Real time conversion of sign language to speech and prediction of gestures using Artificial Neural Network	Procedia Computer Science, Volume 143, 2018	The proposed device makes use of an Arduino Uno board, a few flex sensors and an Android application to enable effective communication amongst the users.
Bharti, Ritika and Yadav, Sarthak and Gupta, Sourav and B, Rajitha	Automated Speech to Sign language Conversion using Google API and NLP	Proceedings of the International Conference on Advances in Electronics, Electrical & Computational Intelligence (ICAEEC) 2019	The proposed system first recognizes the speech, the second converts it to text, third matches tokenized text with the visual sign word library (videos of sign language), fourth concatenates all

			the matched videos ac-cording to the text recognized and finally display the merged video to the deaf/dumb person.