Ideation Phase

Date	20 October 2022
Team ID	PNT2022TMID49307
Project Name	Real time communication system powered by AI for specially abled.
Maximum Marks	2 Marks

Literature Survey

1.Title:

D-Talk: Sign Language Recognition System for People with Disability using Machine Learning and Image Processing.

Author:

Bayan Mohammed Saleh, Reem Ibrahim Al-Beshr, Muhammad Usman Tariq**.**

Year: 2020

Description:

Communication plays a significant role in making the world a better place. Communication creates bonding and relations among the people, whether persona, social, or political views. Most people communicate efficiently without any issues, but many cannot due to disability. They cannot hear or speak, which makes Earth a problematic place to live for them. Even simple basic tasks become difficult for them. Disability is an emotive human condition. It limits the individual to a certain level of performance. Being deaf and dumb pushes the subject to oblivion, highly introverted. In a world of inequality, this society needs empowerment. Harnessing technology to improve their welfare is necessary. In a tech era, no one should be limited due to his or her inability. The application of technology should create a platform or a world of equality despite the natural state of humans. On the other hand, technology is the most innovative thing on Earth for every time the clock ticks, researchers, software 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.

2.Title:

Design of a Communication System using Sign Language aid for Differently Abled Peoples.

Author:

Shrikant Temburwar1, Payal Jaiswal2, Shital Mande3, Souparnika Patil4.

Year: 03 Mar -2017

Description:

Our goal is to design a human computer interface system that can accurately identify the language of the deaf and dumb. With the use of image processing and artificial intelligence, many techniques and algorithms have been developed in this area. Each character speech recognition system is trained to recognize the characters and convert them into the required pattern. The proposed system aims to give speech speechless, a real-time character language is captured as a series of images, and it is processed and then converted into speech and text of the sign language is an important research problem for communication with the hearing impaired. The system does not require that the hand is perfectly aligned to the camera. The project uses the image processing system to identify, especially the English alphabetical character language used by the deaf to communicate. The system proposed to develop and build an intelligent system that uses image processing, machine learning and artificial intelligence concepts to make visual inputs of hand gestures of sign language and to create an easily recognizable form of outputs.

3.Title:

Artificial Intelligence Technologies for Sign Language.

Author:

Ilias Papastratis, Christos Chatzikonstantinou, Dimitrios Konstantinidis, Kosmas Dimitropoulos, Petros Daras.

Year: 2021 Aug 30.

Description:

AI technologies can play an important role in breaking down the communication barriers of deaf or hearing-impaired people with other communities, contributing significantly to their social inclusion. Recent advances in both sensing technologies and AI algorithms have paved the way for the development of various applications aiming at fulfilling the needs of deaf and hearing-impaired communities. To this end, this survey aims to provide a comprehensive review of state-of-the-art methods in sign language capturing, recognition, translation and representation, pinpointing their advantages and limitations. In addition, the survey presents a number of applications, while it discusses the main challenges in the field of sign language technologies. Future research direction are also proposed in order to assist prospective researchers towards further advancing the field.

4.Title:

Smart Assistive Activity Recognition Device for Differently Abled People Based on Machine Learning – SAARD.

Author:

Jayashree Agarkhed1, Lubna Tahreem.

Year: 2021

Abstract:

Science and Technology have made human life addictive to comfort, yet concurrently there exists an oppressed gathering of individuals who are battling for tracking down a creative way that can make their life easier for them. After concentrating and highlighting the problems faced by the differently abled people like blind and deaf, solving it through a device alone is a very hard task. A ton of exploration has been done on every issue and arrangements have been proposed independently. Objective of the smart assistive device SAARD (Smart Assistive Activity Recognition Device for Differently Abled People) is to recognize activity for differently abled people so; they feel confident and independent by helping them to know objects surrounding them.

5.Title:

Hand sign recognition for medical field genesis.

Authors:

Dr. Uttara Gogate, Vahaz Kazi, Aakash Jadhav, Tirthesh Bari.

Year: 2022-04-19

Abstract:

Inability to talk is taken into account to be true incapacity. folks with this incapacity use totally different modes to speak with others, there are variety of strategies accessible for his or her communication one such common methodology of communication is language. Developing language application for speech impaired folks is vital, as they'll be ready to communicate simply with even people who don't perceive language. Our project aims at taking the fundamental step in bridging the communication gap between traditional folks, deaf and dumb folk's victimization language. the most focus of this work is to form a vision-based system to spot language gestures in real-time. Not solely that, however our project conjointly aims to focus on the audience or the users with very little or no data regarding any language. The project can aim to be helpful for each the traditional yet because the person with speaking or hearing incapacity. Although, the scope of the project shall be on the far side the compatibility, still it\'s herewith tried to usher in the module or a locality of the appliance for the speech impaired person. Future scope of the project aims to develop the appliance to assist person with all ability.