LITERATURE SURVEY

REAL TIME COMMUNICATION SYSTEMPOWERED BY AI FOR SPECIALLY ABLED

Title: Artificial Intelligence enabled virtual sixth sense application for the disabled

Author Name : Aditya Sharma, Aditya Vats, Shiv Shankar Dash

Year of publishing : January 2020

Description:

The sixth sense is a multi-platform app for aiding the people in need that is people who are handicapped in the form of lack of speech (dumb), lack of hearing (deaf), lack of sight (blind), lack of judicial power to differentiate between objects (visual agnosia) and people suffering from autism (characterized by great difficulty in communicating and forming relationships with other people and in using language and abstract concepts). Our current implementation of the product is on two platforms, namely, mobile and a web app. The mobile app even works for object detection cases in offline mode. What we want to achieve using this is to make a better world for the people suffering from disabilities as well as an educational end for people with cognitive disabilities using our app. The current implementation deals with object recognition and text to speech and a speech to text converter. The speech to text converter and text to speech converter utilized the Web Speech API (Application Program Interface) for the website and text to speech and speech to text library for the mobile platform. The object recognition wouldn't fetch enough use out of a website. Hence, it has been implemented on the mobile app utilizing the Firebase ML toolkit and different pre-trained models, which are both available offline as well as online.

Title : Sign Language Recognition System for People with Disability using Machine Learning and Image Processing

Author : Bayan Mohammed Saleh, Reem Ibrahim AI-Beshr, Muhammad Usman Tariq

Year of Publishing: September 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.between objects (visual agnosia) and people suffering from autism (characterized by great difficulty in communicating and forming relationships with other people and in using language and abstract concepts). Our current implementation of the product is on two platforms, namely, mobile and a web app. The mobile app even works for object detection cases in offline mode. What we want to achieve using this is to make a better world for the people suffering from disabilities as well as an educational end for people with cognitive disabilities using our app. The current implementation deals with object recognition and text to speech and a speech to text converter. The speech to text converter and text to speech converter utilized the Web Speech API (Application Program Interface) for the website and text to speech and

speech to text library for the mobile platform. The object recognition wouldn't fetch enough use out of a website.

Title : An AI software to communicate with deaf and mute in real time

Author: Bhargav D V,

Year of publishing *:* September 27th, 2021

Description:

The software will assist them in establishing a two-way communication channel even with unimpaired people who have never studied sign language**.** The software, christened DnD Mate, does not only translate sign language into text and speech, but also translates speech into sign language, all in real time and as quick as the person speaks. Currently, there are no applications/software that facilitates a two-way communication channel. This easy-to-use innovative digital translator works with your device's in-built cameras, reads hand and facial gestures by the deaf and mute user and translates them into text and speech. That is not all! The software will also translate your voice or text input into sign language.'The software is based on a Deep Learning model and can work both offline and online. While in the offline mode, the deaf and mute person can communicate with you on the same device in real time; in the online mode, you can converse sitting in far off places as well, just like you talk to anyone over a video call.

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