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"Psychological Confidence by Ai: Enhancement Quality & Future of Mobility for People with Disabilities of Neurological Impairment"

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Abstract: Artificial intelligence (AI) has been viewed primarily a public benefit since it is used by more than four billion individuals every month. Individuals of all abilities are welcome to use it. Mobility is greatly aided by technological advancements, especially those involving AI. To enhance the quality of life of a certain group of individuals, it's not enough simply to discover cutting-edge ideas; rather, an answer must be put at their fingertips. For the more than a billion handicapped individuals across the globe that potentially benefit from AI, this would be a huge step forward. In this work, we attempt to bring forward the recent advancements in computational intelligence methods and how AI might improve access. We hope that this work will be a lay a foundation for the researchers to work in this domain in the near future.

Keywords: Disability, AI, mobility, recognition, intelligence, ease of life.

1. Introduction

The term "artificial intelligence" (AI) is used to describe technological advancements that mimic human intellect. It encompasses technological solutions that are capable of playing chessboard and solve calculations like a person to those which can replicate cognitive ability in other ways. A particular aspect of artificial intelligence is machine learning (ML), which allows computers to develop via exposure to additional information in attempt to more accurately forecast users' demands. AI and ML have the potential to greatly improve the lives of persons with disabilities by facilitating the development of new intellectual and technology products and procedures [1]. Google, for one, employs ML by having its systems track people' browsing habits and social media likes so as to tailor its service to each individual person [2]. One must discuss the moral difficulties posed by the intersection of artificial intelligence and impairment. For this, we will rely on anecdotal evidence, within the context of publications as two persons with disabilities, to examine the potential, support, and challenges of using AI as part of one's everyday life [3-5].

This work emphasis on recent advancements in computational intelligence methods and how AI might improve access to the disabled people in their day-to-day life.

2. Comparative Study

This section deals with addressing the challenges of the following

Visually impaired people's access to image detection technology, accessible recognition of faces for the blind, the ability to recognize a person's lips while they have lost their hearing, synopsis of texts for the cognitively impaired, captioning or interpretations in actual time for those with difficulty hearing or whom are unable to comprehend what is being spoken at.

2.1. Image recognition for people with a visual impairment

Boxes containing food and articles of clothes are just two examples of everyday goods that a blind person could require help recognizing. Seeing-eye-trained algorithms for computerized identification of objects remain to be of little use in this context due to differences in backdrop disarray, size, views, obstruction, and quality of image between seeing and blind users' photographs. In [6], researchers take a look at personalized item recognizers, where the visually handicapped train a smartphone app by taking pictures of items that interest them and labelling them with their own names. In order to classify k-instances with multiple labels according to customized criteria, we employ a deep learning system that incorporates transferable learning. Accuracy rates of over 90% have been achieved in trials with blind volunteers, proving the viability of the method. They compare classifiers based on pictures by blind people to ones trained on images by sighted people and general recognizers; and evaluate consumer information and comments to investigate the impact of the number of samples, photo-quality variation, and item form. The work introduced a strategy for visually impaired persons to develop their own unique object recognition engine to distinguish between commonplace items. By doing so, they addressed a critical issue for those with vision impairments: the lack of a method for recognizing objects in certain contexts. They have developed classifiers for images that may tailor cutting-edge generalized predictors to specific to users' objectives with less training data by exploiting the restrictions placed on the arrangement of visual information by personalisation.

Individuals who are blind or have significant vision loss have significant difficulties in moving about alone. Cell phones (e.g., smartphones) have been at the forefront of technological advancement because they serve as ideal venues for delivering technological assistance in the shape of apps for mobile devices. The work in [7] introduces ZebraRecognizer, a zebra crossing recognition computer component which improves upon the current state of the art in two ways. To begin, it corrects for projected deformation in the obtained picture, that boosts the accuracy of identification & allows for the computation of the defined absolute location of the intersection in relation with the consumer, that's essential for efficient guidance. Furthermore, ZebraRecognizer is productive because it uses a variant of the EDLines method that has been optimized for concurrent processing on the GPU. ZebraRecognizer has been shown to be effective in experiments, and it has been shown to efficiently calculate the crossing location.

The zebra crossing detection method presented in this [7] has been fine-tuned to comply with Italian traffic rules but it may be simply changed to comply with most other standards used globally. For instance, ZebraRecognizer may be easily reconfigured to identify US zebra crossings by fine-tuning its detection settings. The technique chosen could be utilized for the creation of comparable alternatives for various crossings for pedestrians or different kinds of renowned horizontally road signs based on geometry.

Clothing having intricate designs and vibrant hues might be difficult to choose for someone having low vision. The shifting, scaling, lighting, and notably huge intraclass variation in patterns provide significant challenges to the study of autonomous garment recognition of patterns. The work in [8] created a prototype camera-based technology which can distinguish between 11 various hues & 4 distinct kinds of garment designs (plaid, stripes, pattern less, and irregularity). Regarding visual and aural descriptions of garments, the device combines a digital camera, microphone, which is machine, and Bluetooth headset. In order to take pictures of garments, a digital camera is attached to a set of glasses. Blind users are given an oral explanation of the different designs and shades of clothes. The microphone allows for voice commands to be inputted into the system. Researchers present a new Radon Sign classifier with an algorithm for obtaining statistically aspects of wavelet sub bands in order to record broad characteristics of garment trends, allowing for their automatic recognition. By combining them with regional characteristics, sophisticated fashion patterns may be identified. They utilized the CCNY Clothing Patterns dataset to test the performance of the suggested method. When compared to cutting-edge texture evaluation approaches for garment pattern identification, this method yields 92.55% accuracy in recognizing patterns, which is a substantial improvement. Ten people with visual impairments also tried the early version. The majority agreed that this kind of setup would allow them to be more self-reliant in their everyday lives, however they did offer some recommendations for enhancements.

VIPs have a far more difficult time identifying other people, which might limit their participation in social gatherings. Using cutting-edge artificial intelligence and an individual's colleagues' labelled photographs on Facebook, the work in [9] introduces Accessible Bot, an investigation concept bot on Facebook Messenger designed to assist consumers with disabilities in recognizing others they know. If you take a picture of a buddy using your phone's camera, this bot will tell you who they are and what they look like. Eight high-profile individuals were surveyed to help us shape the product based on their experiences and requirements. After developing the bot, we put it through its paces in an ongoing experiment with six A-listers. Respondents' positive impressions of the Bot were tempered by issues with its apparent poor identification accuracy, the inability to precisely position a camera, including an absence of insight into the phone's state. We talk about these practical difficulties, find good uses for Accessibility Bot, and extract design consequences regarding potential recognition of faces software.

The difficulties of the sight handicapped frequently centre on issues of movement and identity. Many people with vision impairments in underdeveloped nations face severe financial hardship due to the prohibitive cost of currently available market smart supplementary devices. The work in [10] suggests an intelligent wearable device capable of picture identification as a potential solution to the issue at hand. The architecture uses a hybrid approach, combining remote and on-premises computing. The physical device only transmits photographs and provides input while a remote server does the bulk of the image processing. As a result, the system's CPU doesn't have to rely on pricey powerful equipment, resulting in a significant cost savings. The cloud-based server's software may additionally ensure quick and precise detection. The work have also reduced power usage by switching from an ongoing scan method for videos to a system for recording places of attention. The system's error-code-based attitude adjustment system will greatly aid the sight handicapped in navigating everyday life, and the system's various prioritized suggestions and arbitrator system will guarantee real-time system response. The effectiveness of the suggested intelligent wearable gadget for the visually handicapped has been shown via field testing. It aids in recognizing familiar faces and locating items in a room.

As can be seen in Figure 1, the system is a wearable device that utilizes a cloud-based server to perform picture recognition. There is an ultrasonic sensor, a sensor that detects infrared, and a small camera built inside it. The Raspberry Pi serves as the computer's internal CPU and communicates with the CS (CS) through a wireless or cellular connection. The massive space for storage and speedy parallel processing of the CS are used. All of the computationally intensive methods used to analyse images and sounds are executed in the cloud. The cloud-based computing system functions similarly to the brain of a person in that it can quickly and accurately analyse specific data and provide the findings to the person who uses it.

Using a pair of smart glasses gives the individual the ability to scan landmarks and other locations of significance. This initiative will continue until it is terminated to ensure the security of those who are visually challenged. The sensors are fused into a single recognizing system to scan places of concern. The infrared camera will trigger a notification sound when it identifies a person in the user's line of sight. A frontal picture will be taken by the camera once the user presses a button to begin the identification process. When a user uploads a photograph to the server, it will analyse it to determine what people, places, and things are in the photo. The client will get the recognition result from the server and utilize TTS (Text to Speech) technology to turn the data into audible feedback for the user.

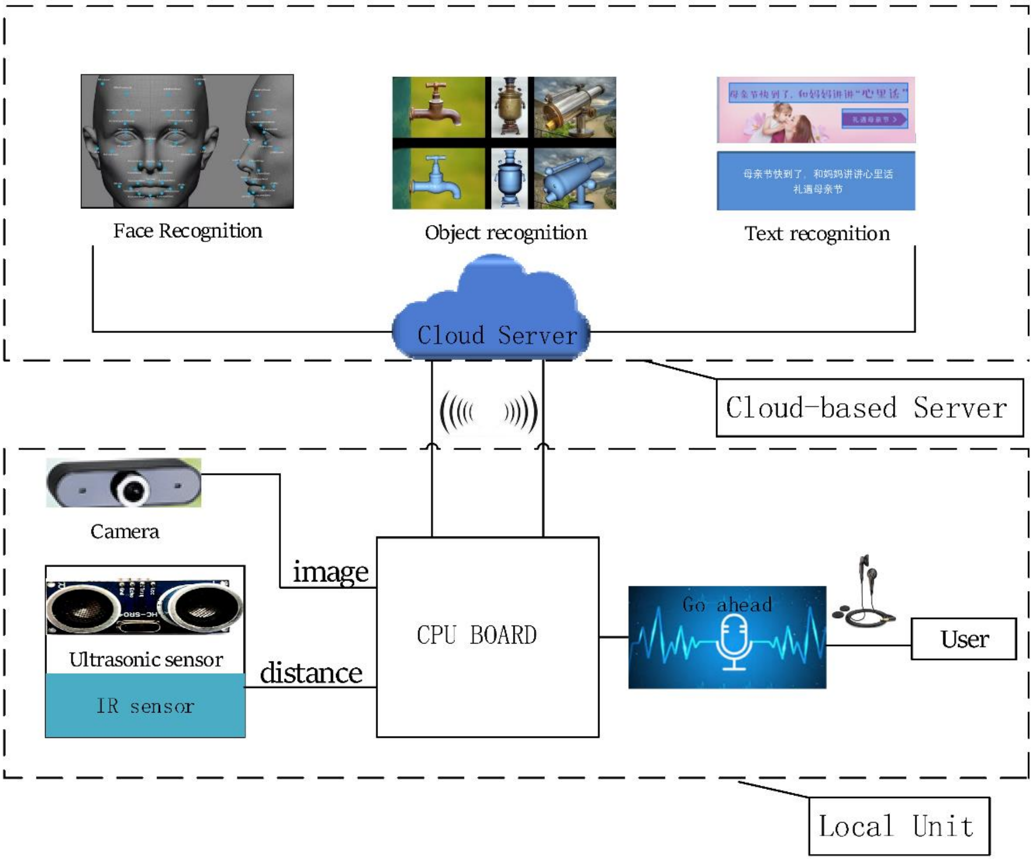

Figure 1: Wearable device architecture [10].

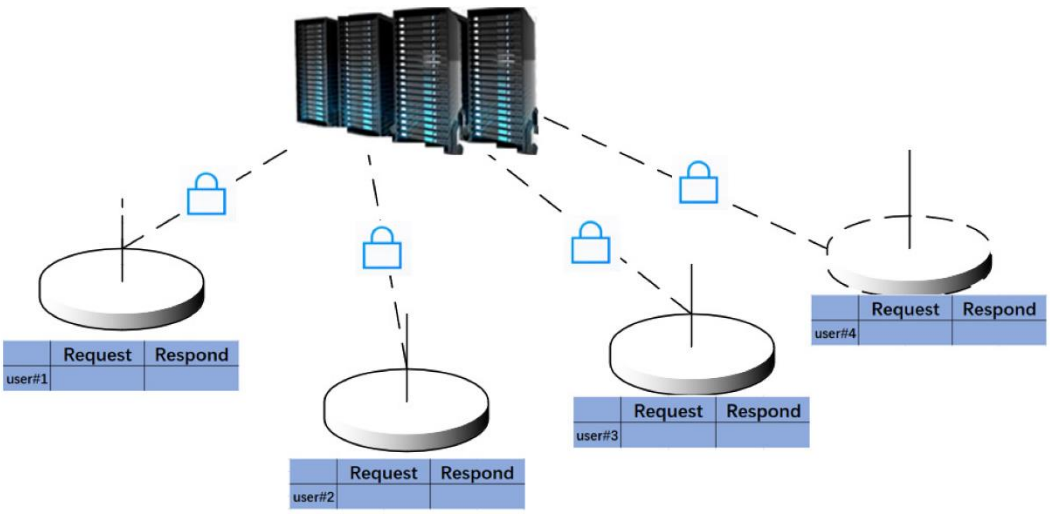

Figure 2: Several local workstations and a central CS [10].

Server in the Cloud: This component is a computing system in the cloud that incorporates sophisticated algorithms for tasks like facial and object identification as well as OCR and text recognition. It relies on the Baidu CS as its backend infrastructure. When applied to tiny gadgets that are embedded, the picture identification technique causes high resource utilization and prolonged time spent on processing. Such algorithms, however, may be executed simultaneously at a rapid efficiency on a CS with extremely powerful equipment arrangements, guaranteeing speed as well as precision. As can be seen in Figure 2, it is able to handle requests from several clients simultaneously and then quickly deliver the results of identification to the requesting client.

Within common environments, persons with visual disabilities may fail to see impending threats. In addition, those who aren't used to their surroundings need direction in order to avoid injury. The work in [11] presents a simple smartphone-based guidance system designed to address the challenges of navigating for people with visual impairments and allow them to more safely and confidently make their way from point A to point B while being alert to their surroundings right along the way. In this research, an application for smartphones was combined with a computer's picture recognition software to provide a basic navigational aid. According to the state of your internet connection, you have the option of using either the online or offline mode of operation. Once the software is activated, the user's smartphone takes pictures of the environment and uploads them to a server. The server processes all incoming images using either a quicker area convolutional neural network (CNN) or a "you only look once" method before relaying the findings to the user's mobile device. The study's hurdle identification findings achieved 60%, high enough to help those with visual impairments understand the kinds and positions of barriers in their environment [11].

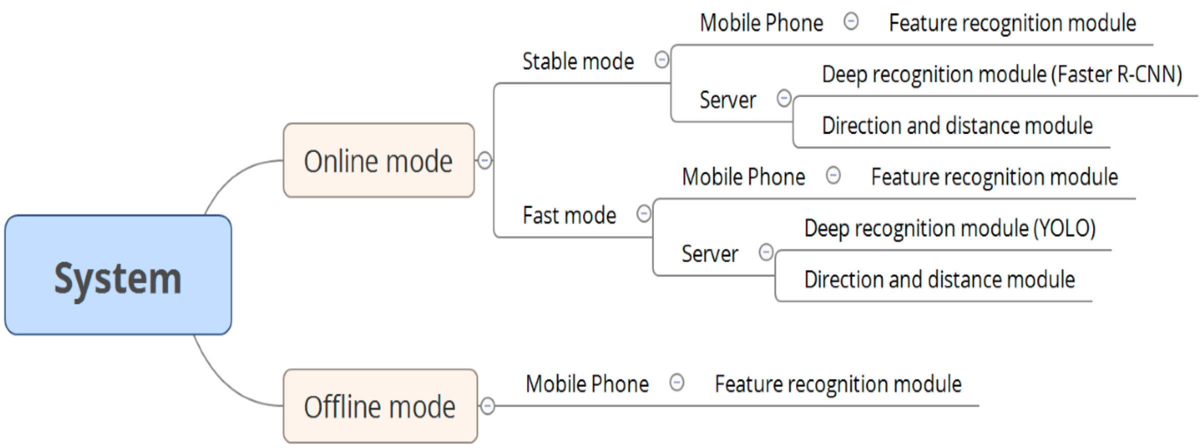

Figure 3: Connections between different types of modules and modes [11].

The internet-based workflow is shown in Figure 3. At the outset, the cell phone takes continual pictures of the area immediately in the path of the user. The photographs are then transferred to the smartphone's recognition of features component, where "face and stair recognition" is carried out. Simultaneously, the pictures are transmitted via the web to the server at the rear. Once the picture has been uploaded to the server, the local copy will be deleted. Even if the cell phone is misplaced, the memory-flushing feature will keep your private information safe. Once the server has received the photos, they will be processed by the feature-rich identification module and the distance as well as direction modules. Next, the server relays the findings to the user's mobile device, which may include information such as the obstacle's kind, guidance, and its proximity to the user. The detection picture server's storage is then cleared. The mobile phone then compiles the data and uses what the user says to update them.

Population expansion in the past few decades, which is only anticipated to accelerate in the decades ahead, poses new problems for urban transportation and accessibility for pedestrians across the globe. Urban planning and transportation policies are also crucial to city sustainability. Today, we rely on navigation and orientation tools in urban areas often, particularly while visiting new areas. In particular, navigating among structures in urban areas is a significant problem with present navigational methods. In [12], we examine the population of people with visual impairments as well as how individuals may learn their location if they have been disoriented. Obviously, the difficulties are unique to this context and demographic and are far more difficult to overcome. Since someone who is blind requires a point of reference rather than a name of the road or location while forgotten, GPS, a technology extensively used for navigating in outdoors contexts, does not provide the accuracy required or the most efficient sort of material. So, this article proposes an idea for framework for Landmarks Positioning-based outdoors placement for the sight handicapped.

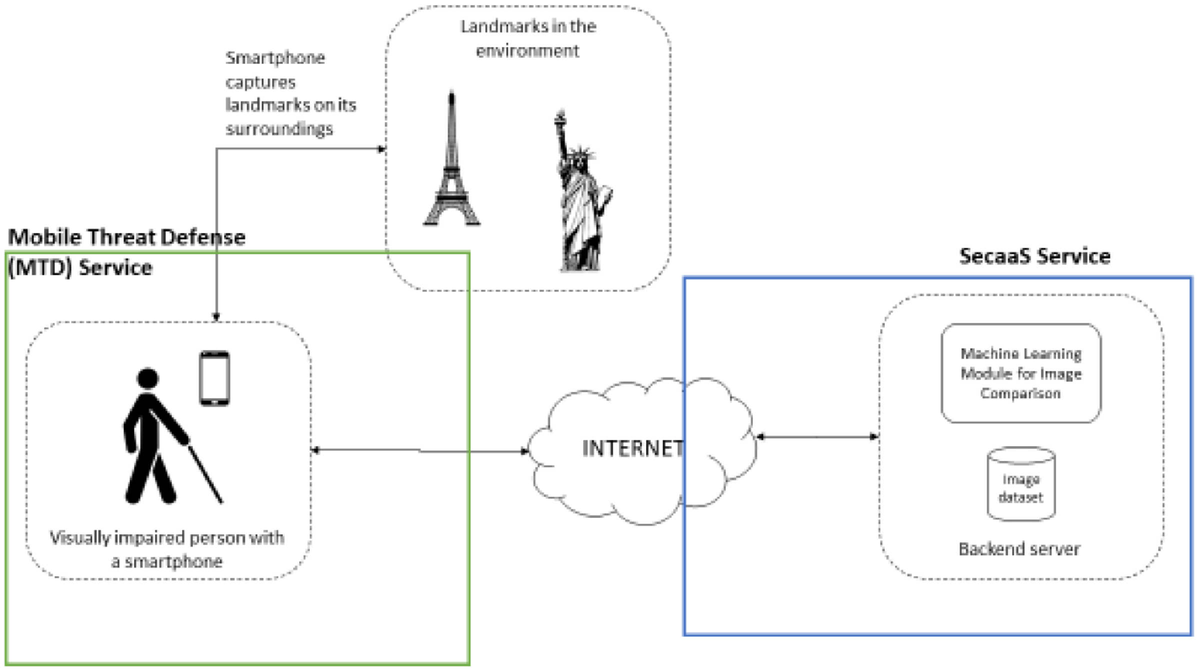

Figure 4: Structure's fundamental parts [12].

A particular situation that presents an obstacle for this population as they shift independently through an urban environment is outside location, and the design suggested for Outside Setting for Blind Individuals via landmarks in Figure 4 seeks to enable a VIP to get data regarding the location in which they're positioned. The framework is made up of two primary parts: the VIP's mobile app, which is required for usage, and a server in the background that processes images and gathers descriptive data to provide to the app's user [12].

To aid visually impaired (VI) individuals in their everyday lives, the study in [13] presents a unique inexpensive powered by sunlight wearing assistive technology (AT) gadget with the goal of providing ongoing, immediate detection of objects. Miniature, inexpensive camera; system on module (SoM) processing chip; ultrasound sensor; these are the three main parts of the system. The first is a device that attaches to the user's spectacles and records live footage of the area around them. The additional component, that fits on like a belt, processes the incoming camera footage using deep learning-based methodologies and spatial techniques for object identification and recognition. The third offers support in arranging the things in the immediate area. An audio description of the items identified and their location relative to the user's sight is provided as input by the created gadget. The power independence in the various modes of operation and circumstances has been extended by the design and testing of a wearing solar harvesting system combined with the newly created AT device. With an 86% positive detection rate and a 215 ms average time gap for the processing of images, the created low-cost AT gadget has shown in experiments to be accurate as well as reliable in actual time recognition of objects. Microsoft's Common Objects in Context (COCO) collection has 91 item types; the suggested system can recognize these, in addition to a number of bespoke object types and human faces. In order to improve the system's capacity for item repertory, the work in [13] present a simple and flexible approach for leveraging picture datasets and training of CNNs. It is also shown that identification rates of 89% can be achieved with in-depth trainings comprising 100 photographs per targeted item, whereas rates of recognition of 55% can be achieved with quick trainings requiring just 12 images.

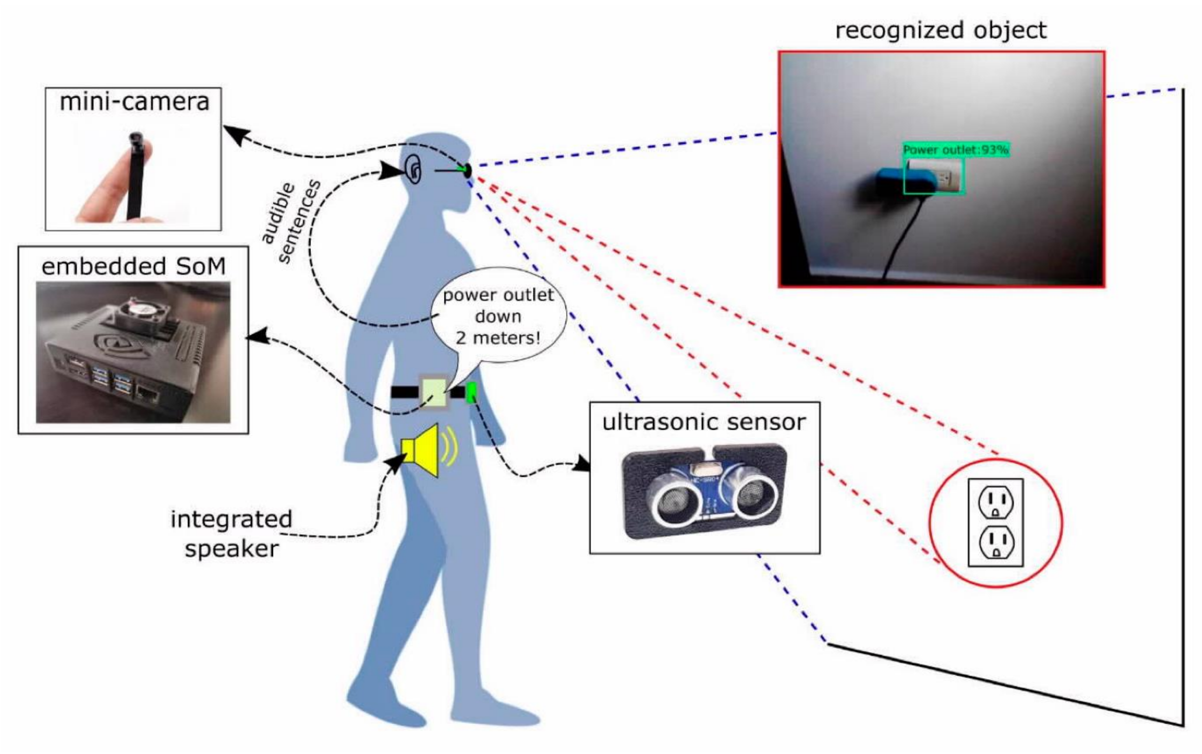

Figure 5: AT device arrangements [13].

Miniature camera, embedded system on module (SoM), and ultrasonic sensor make up the system's three primary components; the SoM processes the pictures captured by the camera in real time to identify commonplace things. To alert the user to the existence and position of an item, the SoM uses an internal speaker to pronounce the object's name. To round out the description, a distance to the detected item is provided via an ultrasonic sensor located at belt buckle height. The components of the planned system are broken down into subsequent parts as shown in Figure 5.

2.2. Facial recognition for people with a visual impairment

People with cortical visual impairment (CVI) often report having trouble recognizing faces, which may make interacting with others challenging. Poor recognition of faces in people with CVI may have a negative effect on their social and emotional well-being, yet there is little data to back up this claim. And it's not obvious if any facial recognition issues are indicative of a larger ventral pathway malfunction. Data from the Strengths and Difficulties Survey (SDQ), a facial identification test, and a glass pattern identification test were assessed from 16 patients with CVI and 25 control in this online research [14]. In furthermore, people self-reported what aspects of perception they may have struggled with by completing a subset of items from the CVI Questionnaire. The findings show that people with CVI do much worse than controls on a facial recognition challenge, but not on a glass pattern assignment. With each face, but not the glass pattern challenge, researchers saw a boost in the limit, a decrease in the percentage accurate, and a rise in reaction time. Subscores of the SDQ for psychological problems and absorbing score were significantly higher among individuals with CVI, even after controlling for possible conflicting consequences such as aging. Last but not least, those with CVI experienced more problems on the CVI Inventory, particularly among the five inquiries and the ones pertaining to facial and identifying objects. Overall, these findings suggest that people with CVI may have serious problems with recognizing their faces, which may have consequences for their daily lives. This data implies that all persons with CVI, regardless of age, should undergo specific facial recognition examinations.

Figure 5 depicts the three phases of creation for the technology suggested by [15]; the initial stage involves searching for and choosing suitable gadgets which are additionally at ease to be utilized by those with blindness or prosopagnosia; the following stage concentrates on the proposal, layout, and implementation of methods that can identify faces regardless of whether they visible distinct facial expressions. Lastly, the work suggests a combination stage in which pre-existing face recognition algorithms, originally developed to be installed on a standard PC, are updated for usage alongside specialized hardware in order to maximize usability for end users. Each step is broken out into its own part below.

Figure 5: Methods used in creating a facial recognition program accessible to the blind [15].

As shown in Figure 6, the initial phase of the facial identification handle involves locating an individual's face inside an image in order to separate it out of the remainder of the image. Following that, describing vectors which define the face that is identified are extracted. To use the classifiers presented in this paper to decide to whom a given face belongs, it is required to collect the vectors of each picture in the training set, which are going to be learnt by the associative memory-based Alpha-Beta CM-KNN.

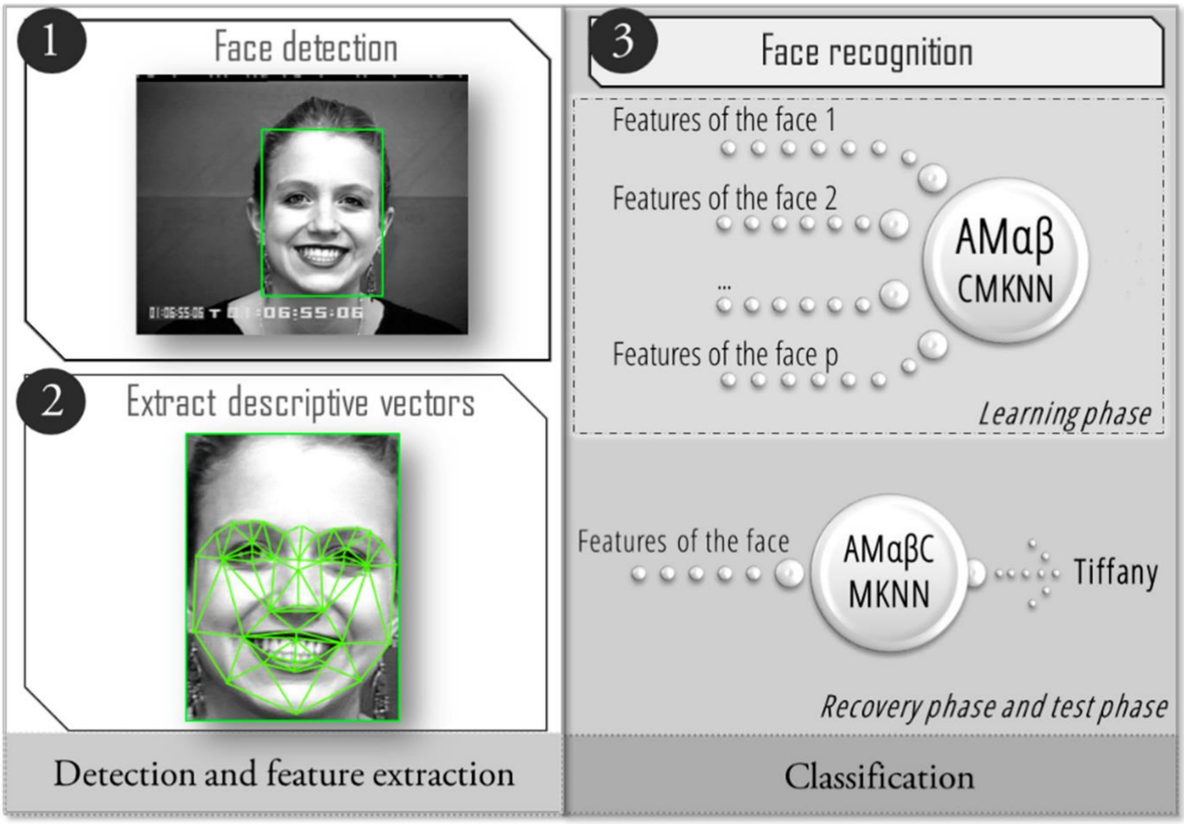

Figure 6: Am-correlation matrix k-nearest neighbour (CMKNN) is a general method for facial identification. [15]

A brain-computer interface (BCI) is a method of interpreting signals from the brain to facilitate human interaction with electronic devices. Researchers in this area have mostly concerned themselves with assisting persons who have mobility, graphical, or hearing impairments. Affective computing (AC), on the opposite together, is a branch of research and data extraction that focuses on the impact of human emotions on computer-human interactions. This publication focuses on the needs of persons with visual impairments and how they may benefit from customized solutions that take into account the severity of their impairment. In [16], we give a state-of-the-art method review in which the authors examine the potential of a BCI and AC to depict the feelings of individuals with visual impairments, as well as the significance of studying the feelings of persons with visual impairments. In conclusion, the authors suggest a methodology to investigate and assess the potential of portraying and understanding the emotions of persons with visual difficulties to enhance their engagement with electronics or their integration into modern society.

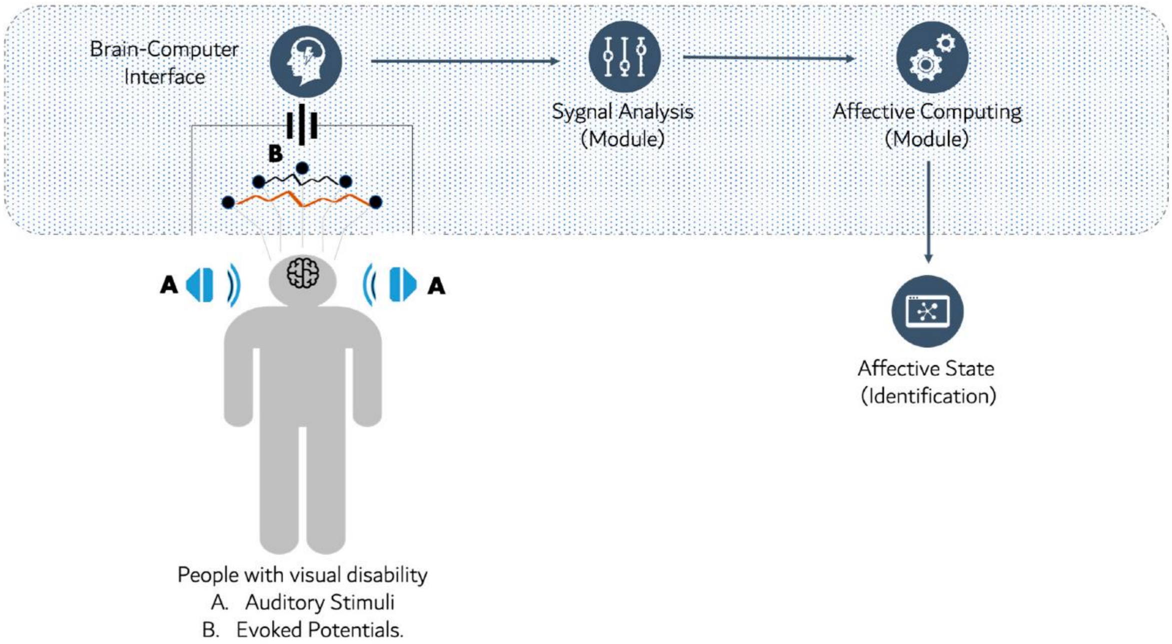

Figure 7: Emotion recognition using an AC and BCI for the visually impaired [16].

The proposal in [16] consists of the modules that follow: (1) hearing stimulation of individuals with visual impairments; (2) the employing of a BCI to collect the neural signals provided by the generated potentials; (3) an offline module for analysing the data set of the cerebral signals; (4) the application of methods to extraction and categorization of feelings; and (5) the determination of the affective state of an individual with visual impairments, as depicted in Figure 7.

2.3. Facial recognition for people with a visual impairment

Reading a speaker's lips is called lip-reading, and it's used to decipher what they're saying. It may aid those with hearing loss and those trying to follow a conversation in a loud setting, among many other uses. Earlier reading lips efforts mostly concentrated on interpreting the lips of people with their faces directly in front of or near a camera, while a few of these also sought out numerous positions in high-quality recordings. On poor-quality movies with various positions, nevertheless, their performance falls short. To boost the identification rate even in low-quality films, a lip-reading framework is presented in [17]. Low-quality movies with many extreme positions are compiled in this study to create a many Pose (MP) dataset. The provided video is broken down into segments, and then the suggested framework uses the Contrast Limited Adaptive Histogram Equalization (CLAHE) technique to improve the quality of each individual frame. The facial frontalization Generative Adversarial Network (FF-GAN) is then used to recognise faces from the improved images and frontalize the various stances. The mouth area is taken out once the face has been frontalized. After training, the ResNet receives the video's recovered mouth area together with the corresponding phrases. On a testing dataset of 100 quiet low-quality films with different postures, the suggested system obtained a sentence forecasting accuracy of 90%, which is superior than state-of-the-art approaches.

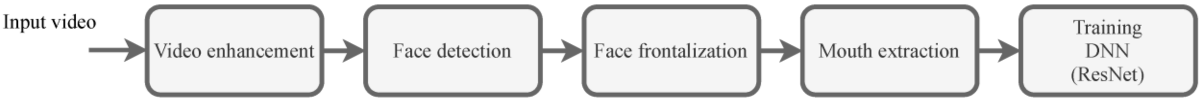

Figure 8: New lip structure developed-reading [17]

Here, the work in [17] provide the specifics of how to put into practice the suggested lip-reading methodology. Figure 8 depicts a rough outline of the suggested structure, that consists of the following five parts: After a video is enhanced, faces can be detected in every frame, multi-view faces can be frontalized once identification is complete, the mouth area is accessible from every arriving frame, and Deep Neural Network (ResNet DNN) may be utilized for predicting phrases.

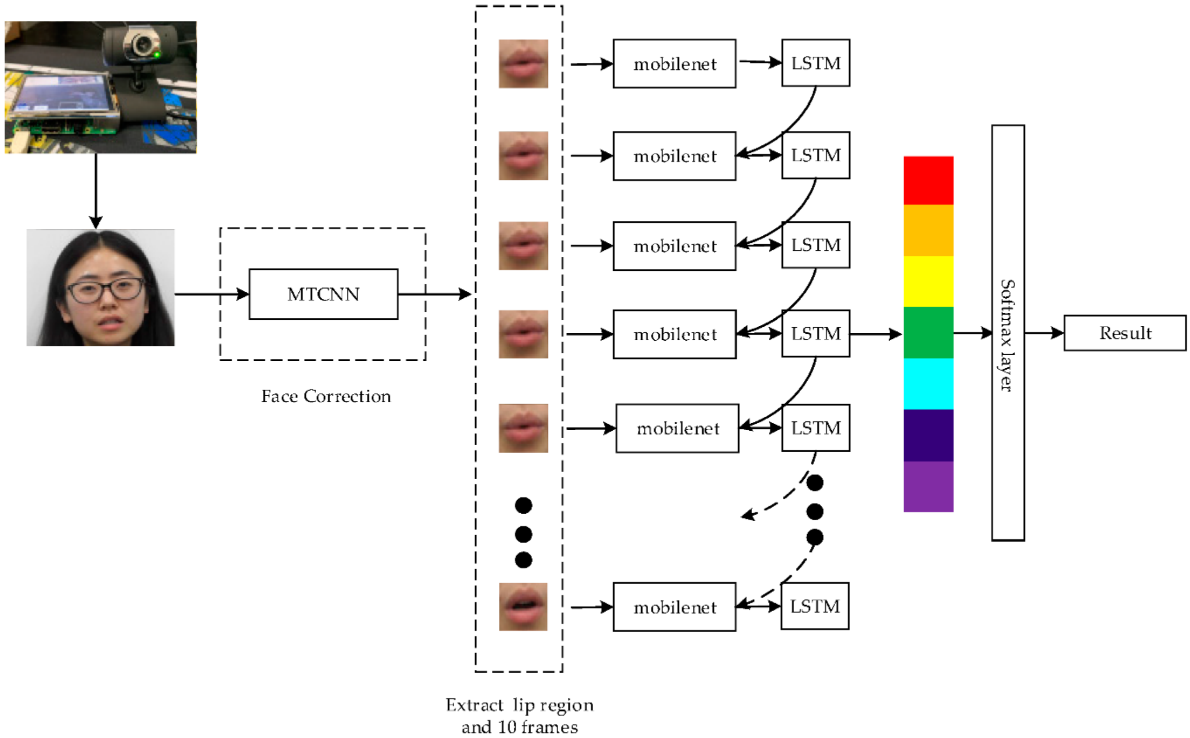

Figure 9: Lip Reading System [18]

One must first deal with the live-action video. Researchers in [18] devise a time-saving strategy for removing the predetermined frame. In addition, they have face restoration and face localization in our system. Then, they employ MobileNets to gather characteristics from the picture area around the mouth. We then use LSTM to predict recognition outcomes based on the learned temporal information.

The next four subsections provide in-depth discussions of the suggested framework in [19] and primary stages. The dynamic lip videos must first undergo preprocessing, during which both video and audio signals are isolated, parameters are extracted, and the mouth is placed. Secondly, a CNN is used to gather characteristics from the cleaned-up picture dataset. To acquire both sequential details and attention weights, they use LSTM's focus mechanism. At last, the SoftMax layer predicts the outcome of automated reading lips identification once the ten-dimensional characteristics have been traced across two completely linked levels. The results from the fully linked layers are normalized by SoftMax before being classified based on likelihood. The total of all possibilities is 1. Figure 10 depicts our suggested CNN with an attention-based LSTM structure.

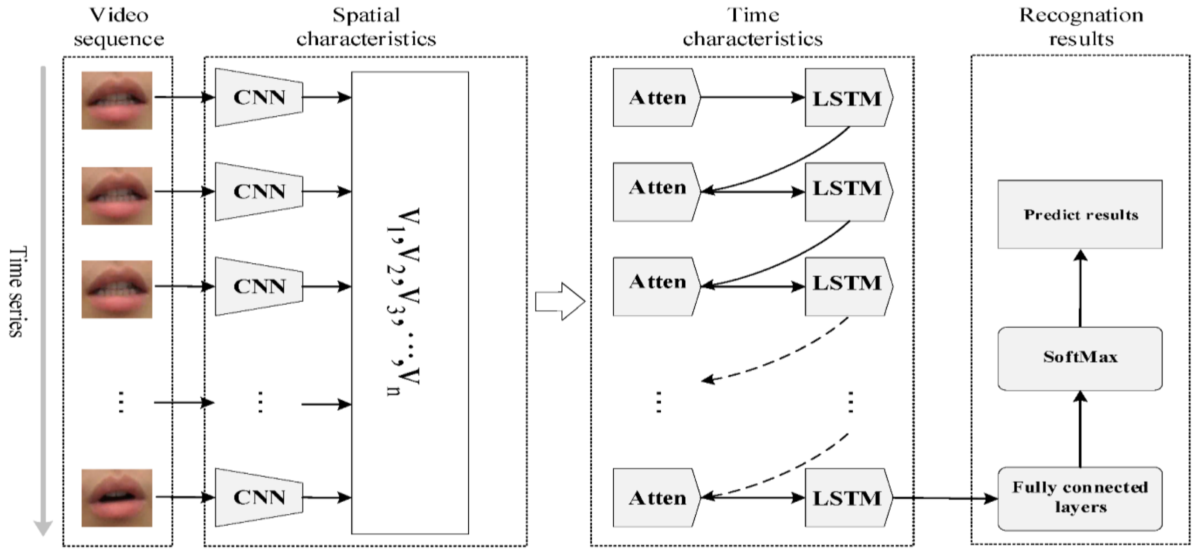

Figure 10: LSTM faced lip reading [19].

In [19], the researchers propose an integrated neural network design for lip-reading identification structures, consisting of convolutional neural networks (CNNs) and attention-based long short-term memories (LSTMs). CNN (VGG19) was first used to get visual characteristics from the mouth region of interest (ROI). Three layers—two completely linked ones and a SoftMax one—were used to arrive at the correct categorization. They constructed the test data set on our own, and it included three men and three girls. Each numeral from 0 to 9 was said by a different, untrained person in a separate video clip, and the computerized utterances were all American English. Experimental findings demonstrate that the suggested design outperforms the standard CNN-RNN model in predicting words from an order of lip area pictures in its own dataset, with a success rate of 88.2% in the test dataset. To further investigate our suggested method for a speaker-independent video speech recognition system, researchers are interested in developing the reading lips identification models using sets of real-time broadcasting videos, such as video clips from news programs and real-world scenarios.

Lip reading technology is a system that can decipher a speaker's words by studying their lips motions in real time. In the past few years, thanks to advancements in deep learning, this technology has gained traction as a useful tool in HCI. Problems arise for systems that have limited storage space and compute power, like handheld devices, since current lip-reading systems are quite sophisticated. They need a significant number of variables and calculation, and the model formed by retraining has to consume a lot of storage. In light of these issues, the work in [20] proposes an optimization of the lightweight network GhostNet called Efficient-GhostNet, which enhances achievement while decreasing the total amount of variables via a regional cross-channel communication method and avoids the need for reducing dimensionality. The spatial properties of the lips are obtained using the enhanced Efficient-GhostNet, and these characteristics are then fed into a GRU network to generate the temporal characteristics of the lip patterns, which are subsequently utilized for predictions. the authors also used Asian individuals to collect the dataset, as well as adopted data enhancement techniques for the dataset via the perspective change of the dataset to shift the recording procedure of the recording device by fifteen degrees to the left and right. These measures improved the capacity for generalization of the framework and helped to increase its durability, while also reducing the impact of external variables. The enhanced Efficient-GhostNet + GRU model achieves the goal of lowering the total amount of variables with equal precision, as shown by the results of the tests.

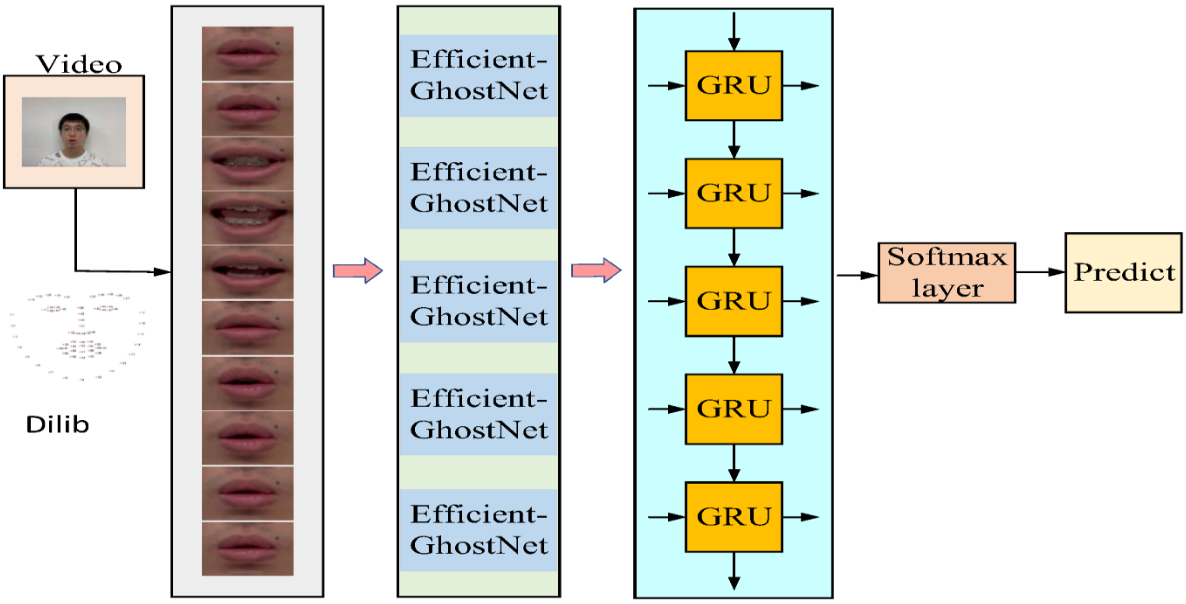

Figure 11: Lip-reading model [20].

After obtaining the facial characteristics, locating the lip, and cropping the resultant lip-motion series to a predetermined size using the Dilib model, researchers could analyze the lip video. Lastly, they utilized the result of the previous phase as the starting point of GRU to obtain the temporal characteristics of the lip-movement patterns using GRU, after which they obtained the final forecast results by a SoftMax layer. This entire process began with the input of lip-movement patterns into an enhanced Efficient-GhostNet, which produced a vector of features of each sequence as shown in Figure 11.

The goal of the work in [21] was to find out if and how Norwegian students who are deaf or hard of listening might benefit from using subtitles to better comprehend and deal with information presented in English as a second language (L2). In this study, 14 high-level English language learners were chosen and evaluated on their ability to understand and use certain English words and phrases while watching videos with either English or Norwegian subtitles, or with no subtitles (control condition). Testing understanding of the storyline right after the clip display found that English subtitles were superior to those in Norwegian and to no subtitles at all. In addition, those with moderate hearing impairment benefited from subtitles far more compared to those having slight hearing impairment. Subtitles in English improved word comprehension for children with mild and moderate hearing loss, but only little. The research results may be used in classrooms and used in conjunction with other strategies for accommodating learners who have hearing impairments.

Table1: Entire review is highlighted in this table

Disability category	**Recognition mode**	**Highlights (Framework)**	**Methods/ network/ framework**	**Ref**
Visual impairment	Image recognition	Visually handicapped are trained using a smartphone app by taking pictures of items that interest them and labelling them with their own names.	Inception v3 network	**6**
Visual impairment	Image recognition	The technique chosen could be utilized for the creation of comparable alternatives for various crossings for pedestrians or different kinds of renowned horizontally road signs based on geometry for visually handicapped people.	zebra crossing detection	**7**

Visual impairment	Image recognition	The prototype camera-based technology which can distinguish between 11 various hues & 4 distinct kinds of garment designs (plaid, stripes, pattern less, and irregularity).	Radon Sign classifier	**8**
Visual impairment	Image recognition	An investigation concept bot on Facebook Messenger is designed to assist consumers with disabilities in recognizing others they know.	Accessible Bot	**9**
Visual impairment	Image recognition	The effectiveness of this intelligent wearable gadget for the visually handicapped aids in recognizing familiar faces and locating items in a room for shopping	TTS (Text to Speech) technology	**10**
Visual impairment	Image recognition	It presents a simple smartphone-based guidance system designed to address the challenges of navigating for people with visual impairments and allow them to more safely and confidently make their way from point A to point B while being alert to their surroundings right along the way.	CNN	**11**
Visual impairment	Image recognition	It examines the population of people with visual impairments as well as how individuals may learn their location if they have been disoriented.	Landmarks Positioning framework	**12**
Visual impairment	Image recognition	Helpful item and facial identification technology for the sight handicapped	sunlight wearing assistive technology	**13**

3. Discussion

Someone with a neurological impairment may readily understand the events surrounding them owing to text summarization, which is made possible by artificial intelligence. It seems like something that's hard to grasp on first glance is really a straightforward piece of writing. Activities which were formerly challenging or unattainable to them have become part of their regular routine. With the help of AI, persons who have disabilities may enter a society that recognizes and accommodates their unique set of challenges. The universe becomes more accessible and welcoming via technological advancements including the use of AI. AI levels the playing field for people of all skills. In this work, we explore the role that AI has played in enhancing the quality of life for people with disabilities, its promise for the future, and the possible legal difficulties that its widespread use might raise. In this study, we focus on how contemporary technology, specifically AI, might make daily living for people with disabilities less difficult and more efficient.

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