REAL-TIME COMMUNICATION SYSTEM POWERED BY AI FOR SPECIALLY ABLED

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OBJECTIVE

- Our project aims to develop an AI model that converts sign language into a speech that can be understood by normal people.

LITERATURE REVIEW

1)Machine Learning based Intelligent System for Safeguarding Specially Abled People

- It is hard handle the challenges experienced by specially abled persons, like those who are visually, audibly, or vocally handicapped, with a single device. A device that can simple, quick, accurate, and effective.
- This is an idea which help the disabled people use and will protect the blind deaf and dumb people from the unknown people or thieves from getting harmed and also helpful for maintaining health issues.
- **TOOLS: Vibrations, Deep learning, Machine learning algorithms, Object detection, Cameras**

2) Hand Gesture Recognition and Voice Conversion System for Dump People

- Sign language plays a major role for dumb people to communicate easily. It is difficult for mute people to convey their message to normal people
- Normal people are not aware of hand sign language. The solution for this problem is to convert the sign language into convenient language.
- **TOOLS: Smart speaking system for mute Sensor, Raspberry Pi, Flex Sensors, Accelerometer Sensor.**

LITERATURE REVIEW

3)Real-Time Sign Language Detection_

➢A model can be build based on machine learning with trained to check different gestures of sign language and translate them into English language.

➢A real time Machine learning based system is construct for the sign language detection with TensorFlow object detection in this paper.

➢**TOOLS: TensorFlow, Object Detection API, Open CV, Label Img.**

4) Deep Learning Methods for Indian Sign Language Recognition

➢Indian Sign Language is used by specially abled people in India. Convolutional neural networks were used and segmented hand images/videos were used as on input to them 36 static hand gestures from Indian Sign Language were trained and a classification accuracy of 98 87% was achieved on the test data.

➢**TOOLS: Assistive technology, Semantics, Gesture recognition, Cameras, Real-time systems, Statistics**

LITERATURE REVIEW

5) Sign-Voice Bidirectional Communication System for Normal, "Deaf/Dumb" and Blind People based on Machine Learning

- Specially abled people face problems in communicating with others with difficulties in dealing with the communication technology. The goal is to design a desktop human system interface application that is to facilitate communication between normal, "deaf & dumb" and blind people.
- SVBi Comm system helps blind person to hear voice saying the word by the" deaf & dumb" while the deaf will receive a gesture representing the word said by the blind.
- **TOOLS: Deaf-blind people , Deaf-blind communication devices, Neural Network**

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

- In human race there are some normal people and special people. Such special people are deaf and mute, rely on some sort of gesture language to communicate their feelings to others
- In this modern timeline there are advanced technologies, where computers, laptops and etc are an integral part of everyday life, efforts must be made to make the disabilities in life more independent.
- **TOOLS: Blob Detection , Skin color recognition, Template Matching, Sign to text and Speech conversion**

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THANK YOU