

# REAL-TIME COMMUNICATION SYSTEM POWERED BY AI FOR SPECIALLY ABLED

## PROBLEM STATEMENT:

**Statement** – In the recent years, there has been rapid increase in the number of deaf and dumb victims due to birth defects, accidents and oral diseases. Since deaf and dumb people cannot communicate with normal person so they have to depend on some sort of visual communication. A World Health Organization report says around 63 million people in India suffer from either complete or partial deafness, and of these, at least 50 lakh are children. Communication between deaf-mute and a normal person has always been a challenging task.

**Description** - The Deaf/Dumb people needs a way to communicate easily and quickly with the normal people, so that the Deaf/Dumb people feel confident enough to express there thought, ideas, and can make conversation with the normal people.

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| <b>Who does the problem affect?</b> | <ol style="list-style-type: none"><li>1) Communication plays a significant role in making the world a better place. Most people communicate efficiently without any issues, but many cannot due to disability.</li><li>2) They cannot hear or speak, which makes Earth a problematic place to live for them. Even simple basic tasks become difficult for them.</li><li>3) Disability is an emotive human condition, Being deaf and dumb pushes the subject to oblivion, highly introverted.</li></ol> |
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| <p><b>What are the boundaries of the problem?</b></p> | <p>1) People sometimes stereotype those with disabilities, assuming their quality of life is poor or that they are unhealthy because of their impairments.</p> <p>2) People may see disability as a personal tragedy, as something that needs to be cured or prevented, as a punishment for wrongdoing, or as an indication of the lack of ability to behave as expected in society.</p>                |
| <p><b>What are the resources?</b></p>                 | <p>The human hand has remained a popular choice to convey information in situations where other forms like speech cannot be used. Voice Conversion System with Hand Gesture Recognition and translation will be very useful to have a proper conversation between a normal person and an impaired person in any language.</p>   |
| <p><b>What are the objectives?</b></p>                | <p>1) Designing and implementing a system using artificial intelligence, Deep Learning algorithms and image processing concepts to take input as hand gestures (or) sign language and It generates recognizable outputs in the form of text and voice.</p> <p>2) We can convert the sign languages into voice or text. So that the specially abled people will convey the message to normal people.</p> |

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| <p><b>What are the purposes?</b></p>                       | <p>The project aims to develop a system that converts the sign language into a human hearing voice or text in the desired language to convey a message to normal people, as well as convert speech or text into understandable sign language for the deaf and dumb.</p>   |
| <p><b>Why is it important that we fix the problem?</b></p> | <ol style="list-style-type: none"> <li>1) They can participate in daily activities rather than being inactive and can get good job opportunities.</li> <li>2) Adaptive learning platforms also provide personalised learning experiences tailored to the specific needs of students with disabilities.</li> <li>3) This application aims to help deaf and dumb by providing them with an attractive communication.</li> </ol> |