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“AI Project Proposal”

Signtistics (Sign language converter)

❖ **Title of Project:**

Title of Project **Signtistics** - Bridging the Communication Gap: A Sign Language Converter.

❖ **Problem statement:**

The project aims to address the communication barrier between individuals who use sign language and those who do not understand it. This barrier restricts effective communication and inclusivity for people with hearing impairments or those who rely on sign language for communication. The lack of accessible tools to convert text words or alphabets into sign language poses significant challenges.

❖ **Project purpose:**

The **Signtistics** project is all about creating a special tool that can convert written text , alphabets into sign language gestures. This tool will be very reliable and easy to use. Its main goal is to make communication easier for people who are deaf or have hearing impairments. It will help them in different areas like school, work, and everyday conversations. The project aims to make sure everyone can access information and be included in society

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❖ **Which algorithm technique you will used:**

The algorithm technique used in the provided code is a simple **array-based lookup**. An array called arr is created, containing valid words and letters for sign language conversion.

The user's input text is converted to lowercase and split into individual words.

For each word in the input, the algorithm checks if it exists in the arr array.

If the word is found in the array, the corresponding sign language image is displayed.

If the word is not found in the array, an "invalid" image is displayed.

The process is repeated for each word in the input.

This algorithm utilizes the array as a lookup table to determine the appropriate sign language gesture for each word. If the word is not present in the array, it assumes the word is invalid and displays an appropriate image

❖ **Result expecting**

The project's primary outcome is a functional sign language converter capable of accurately translating text words or alphabets into sign language gestures. The system will utilize state-of-the-art algorithms to recognize and generate precise hand gestures that correspond to the input text. We expect the converter to achieve a high level of accuracy and provide real-time feedback to facilitate effective communication between individuals using sign language and those who rely on spoken or written language. We are expecting more from our converter to gain vast knowledge and store big data so that every individual can facilitate through it and get a rational result.

❖ **Reference:**

Article on Benefits of sign language:

<https://www.analyticsvidhya.com/?s=sign+language+converter>

Tkinter Documentation:

<https://docs.python.org/3/library/tk.html>

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