

Text to Sign Language Translator

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Abstract: *The Text to Indian Sign Language (ISL) Converter is a web-based application designed to facilitate communication between hearing and deaf individuals by translating English text into corresponding ISL gestures. This system utilizes pre-recorded MP4 video animations of ISL alphabets, numbers, and common words. The tool processes user input, either through text or broken-down letters, and sequentially plays the corresponding ISL videos. A fallback mechanism is implemented to handle words not available in the dataset by spelling them out using ISL alphabet videos. The system was tested for robustness and usability, with results indicating that it successfully handles a variety of text inputs, maintains smooth playback continuity, and delivers an engaging, user-friendly interface. While the system does not yet integrate linguistic adjustments for ISL syntax or grammar, it provides a simple and effective solution for digital inclusion. Future work will involve expanding the dataset, incorporating natural language processing (NLP) for sentence restructuring, and collaborating with ISL experts to ensure accuracy. The project highlights the potential of browser-based tools in bridging communication gaps for the hearing-impaired community, with significant room for future enhancements.*

Keywords: Accessibility technology, Indian Sign Language, ISL Animation, Sign Language, Text-to-Sign Language

