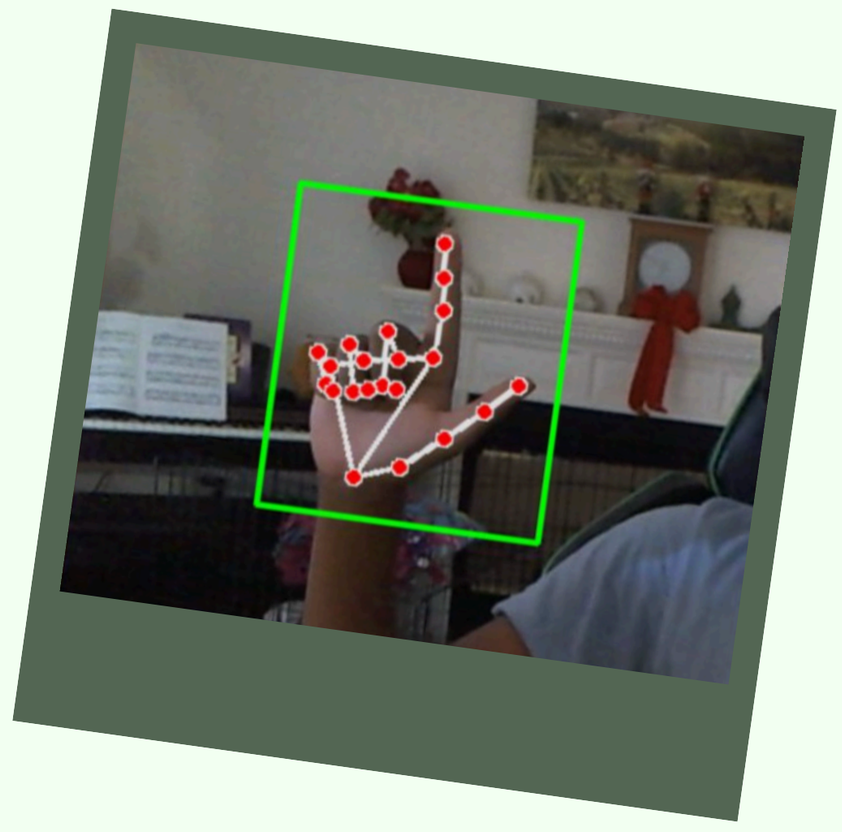
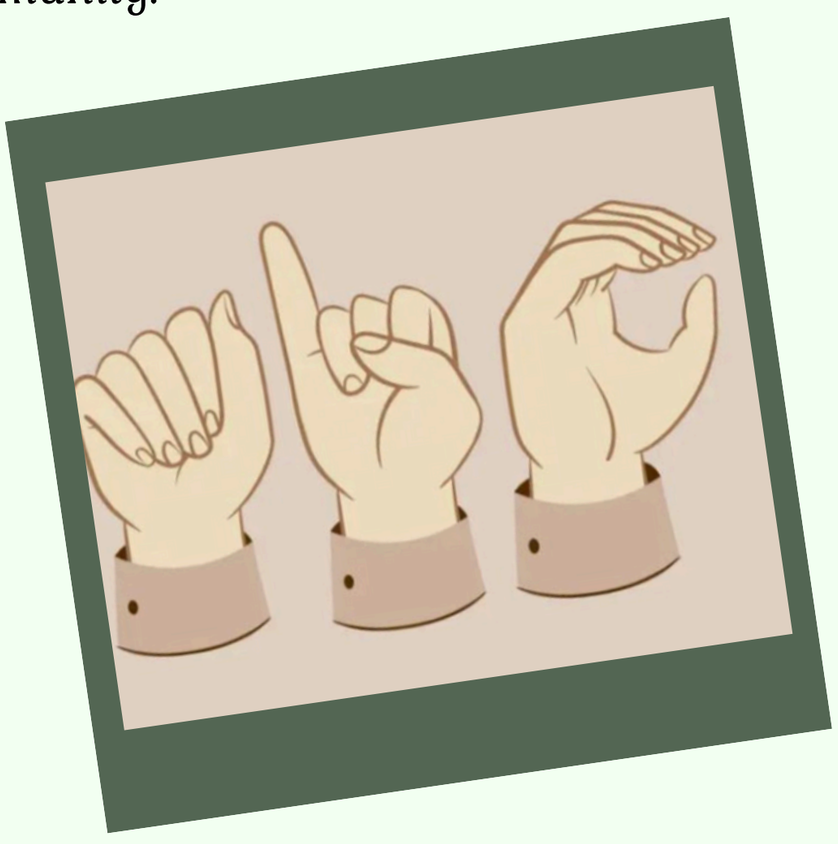
ASL Recognition With Aritifical Intelligence

Problem Statement : Develop a gesture recognition system to interpret sign language from video inputs.

About The Project

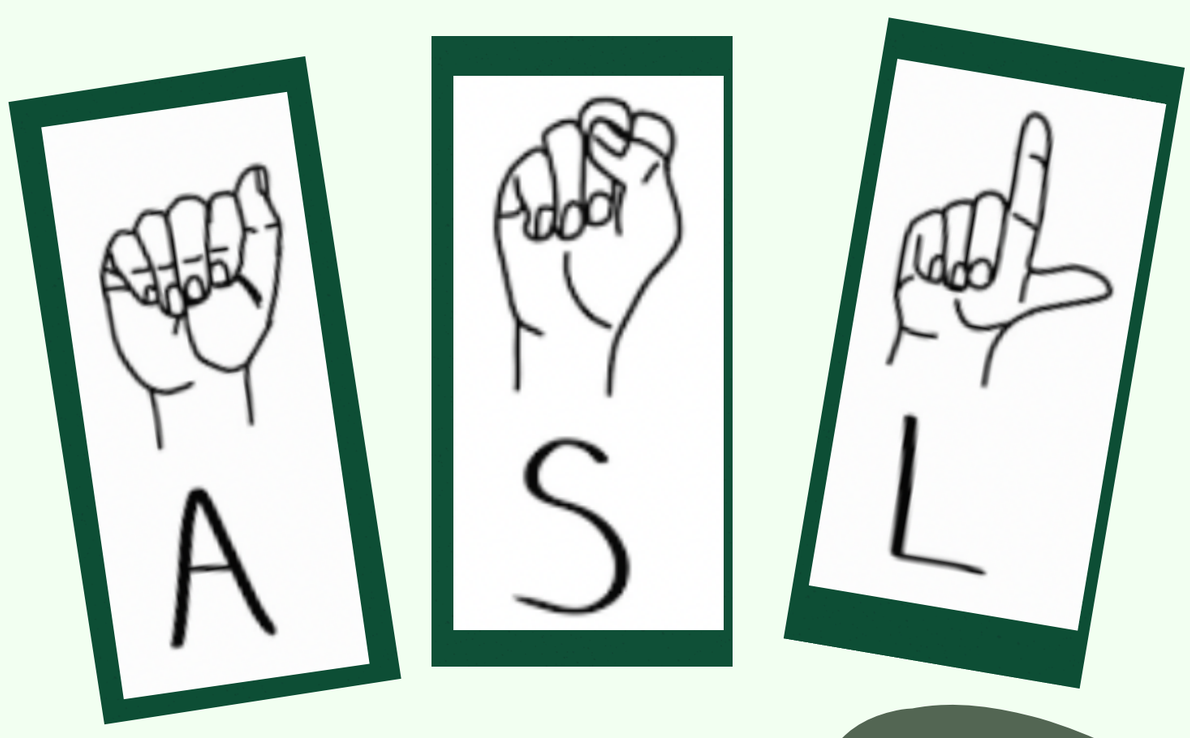
The gesture recognition system for interpreting sign language from video inputs leverages advanced computer vision and deep learning techniques. The system captures video sequences and processes frames to detect and track hand and body movements. This technology aims to bridge communication gaps, providing an accessible tool for the deaf and hard-of-hearing community.





Functioning Of The Project

It utilizes convolutional neural networks (CNNs) for feature extraction and recurrent neural networks (RNNs) or transformers for temporal pattern recognition. The system is trained on a diverse dataset of labeled sign language gestures, enabling it to translate signs into text or spoken language in real-time.



Dataset Used

ASLLVD (American Sign Language Lexicon Video Dataset): This dataset consists of thousands of ASL signs captured from multiple signers, with detailed annotations including glosses, start/end frames, and hand shapes.