SYSTEM IMPLEMENTATION

System Architecture

Data Collection Module Collects video or image data of the signer performing sign language gestures. Preprocessing module preprocesses the collected data to enhance quality and extract relevant features Feature Extraction Module Extracts relevant features from the preprocessed data. Gesture Recognition Module Recognizes sign language gestures using machine learning or deep learning algorithms. Language Processing Module Analyzes the recognized gestures to understand the sign language sentence. Output Module Displays the recognized sign language text or speaks it through a speech

System Components

Captures video or image data of the signer. Processes the collected data and runs the sign language recognition algorithm. Machine Learning/Deep Learning Algorithm Recognizes sign language gestures and analyzes the recognized gestures to understand the sign language sentence. Speech Synthesizer Speaks the recognized sign language text Display Displays the recognized sign language text.

System Implementation Steps

Collect a large dataset of sign language videos or images. Preprocess the collected data to enhance quality and extract relevant features. Extract relevant features from the preprocessed data. Train a machine learning or deep learning algorithm to recognize sign language gestures. Analyze the recognized gestures to understand the sign language sentence. Integrate the various components of the system, including the camera, computer, and speech synthesizer. Test and evaluate the system to ensure it meets the required accuracy and performance standards

System Deployment

1. Web Application: Deploy the system as a web application, allowing users to access it through a web browser.

2. Mobile Application: Deploy the system as a mobile application, allowing users to access it through a mobile device.

3. Desktop Application: Deploy the system as a desktop application, allowing users to access it through a desktop computer.

4. Embedded System: Deploy the system as an embedded system, integrating it with other devices or systems.