

PROJECT REPORT

SIGN LANGUAGE RECOGNITION

Project overview:

In this project, we propose an idea of feasible communication between hearing impaired and normal people with the help of text and visual expression.

Sign language Recognition (SLR) system takes an input expression from the hearing-impaired person and gives output to the normal person in the form text or voice.

Implementation

Frontend Development:

The frontend was designed to be both informative and user-friendly. The website includes sections that explain the project, the technologies used, and a brief introduction to sign language recognition.

Backend Development:

The backend development involved several key steps:

1. Dataset Creation: We created a custom dataset by capturing images of different sign language gestures. Each gesture was labeled accordingly, forming the basis for our training data.

2. Model Training: Using TensorFlow, we trained a Convolutional Neural Network (CNN) model to recognize the gestures. The model was trained on a subset of the dataset and validated on another subset to ensure its accuracy.

3. Recognition: The trained model was then integrated into the backend to perform real-time recognition of gestures. When a gesture is captured by the system, it is processed by the model, and the recognized sign is displayed on the frontend.