



NATIONAL INSTITUTE FOR TECHNOLOGY KARNATAKA,
SURATHKAL INDIAN SOCIETY FOR TECHNICAL EDUCATION, NITK
CHAPTER



SPEECH-TO-SIGN

+91 95670 97555 | <https://iste.nitk.ac.in> | iste@nitk.edu.in



INTRODUCTION



- Sign language is a visual language used by deaf people as their mother tongue.
- It is achieved by simultaneously combining hand shapes, orientation and movement of the hands.



AIM

- Convert an input speech to the corresponding Indian Sign Language.
- To develop a scalable project which can be extended to capture whole vocabulary of ISL through manual and non manual signs.

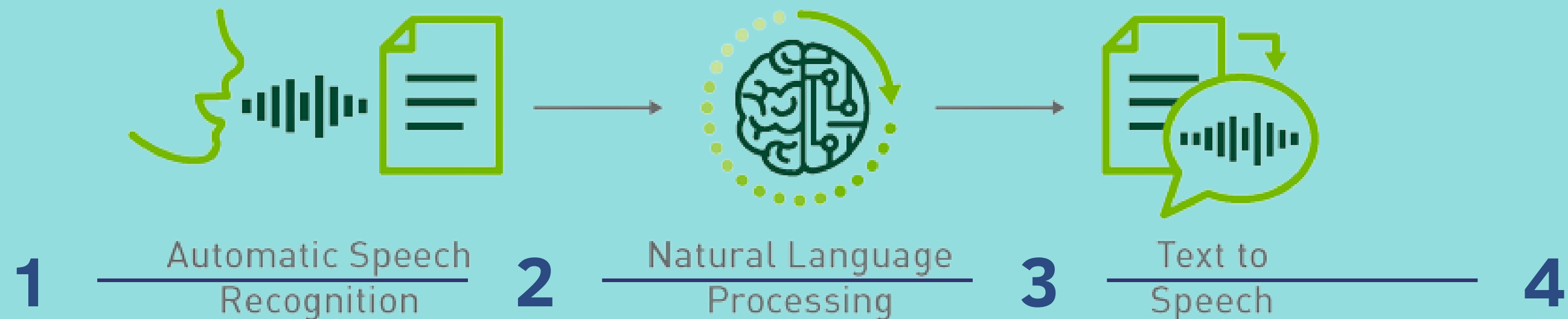
Aa



**TEXT OR SPEECH TO SIGN
LANGUAGE – IN REALTIME**



PROCEDURE



STEP

Converting
speech to text

Built an Automatic speech recognition model by combining 2D CNN, RNN and CTC loss

STEP

Converting the text to
Indian Sign Language

Used NLP to give system the ability to understand text like human do.

STEP

Front end design

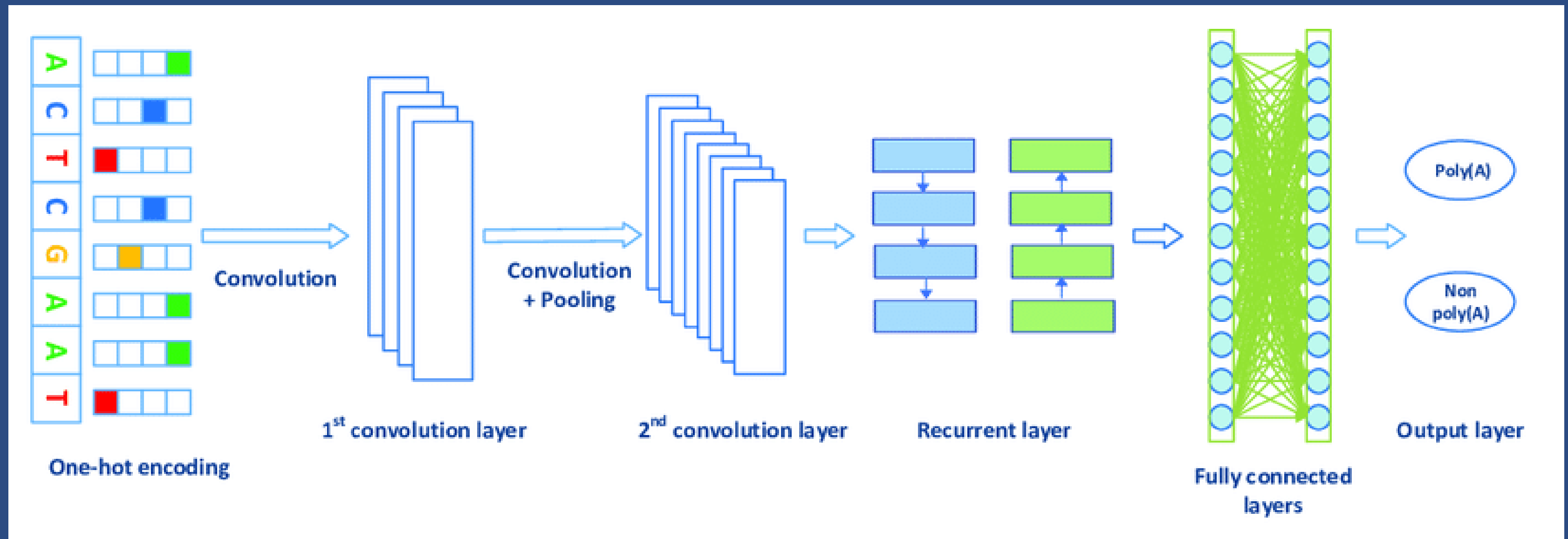
Developed the front end using Streamlit and Python.

STEP

Integration

Linked the speech to text model and text to ISL and integrated with the frontend.

MODEL ARCHITECTURE





RESULTS

Successfully built
the model with
73% accuracy
and integrated
with the website.

Speech to Sign

Introducing an application that allows for spoken English to be seamlessly translated into Indian Sign Language. With this app, users can effortlessly record their voice and, with just a click, see their words come to life in sign language through a captivating window on their screen.

Click to record your voice

Click to record





NATIONAL INSTITUTE FOR TECHNOLOGY KARNATAKA, SURATHKAL
INDIAN SOCIETY FOR TECHNICAL EDUCATION, NITK CHAPTER



THANK YOU!



+91 95670 97555 | <https://iste.nitk.ac.in> | iste@nitk.edu.in