Sign Language Detection

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PROJECT TITLE

Real Time Hand Sign Detection with Tensor Flow (Using Keras CNN)

Agenda

- Sign language is the only tool of communication for the person who is not able to speak and hear anything.
- Sign language is a boon for the physically challenged people to express their thoughts and emotion.
- In this work, a novel scheme of sign language recognition has been proposed for identifying gestures in sign language.
- With the help of computer vision and neural networks we can detect the signs and give the respective text output.

Problem Statement

Mute people use hand signs to communicate, hence normal people face problem in recognizing their language by signs made. Hence there is a need of the systems which recognizes the different signs and conveys the information to the normal people.

PROJECT OVERVIEW

Communication is defined as the act of sharing or exchanging information, ideas or feelings. To establish communication between two people, both are required to have knowledge and understanding of a common language. But in the case of deaf and mute people, the means of communication are different. Deaf is the inability to hear and dumb is the inability to speak. They communicate using sign language among themselves and with normal people, but normal people do not take seriously the importance of sign language. Not everyone possesses the knowledge and understanding of sign language which makes communication difficult between a normal person and a deaf and mute person. To overcome this barrier, one can build a model based on machine learning. A model can be trained to recognize different gestures of sign language and translate them into English. This will help a lot of people in communicating and conversing with deaf and mute people. A method proposed train a TensorFlow model to create a real-time Sign Language Recognition system. The system achieves a good level of accuracy even with a limited size dataset.

END USERS

MUTE PEOPLE

To Communicate with Others

DEAF PEOPLE

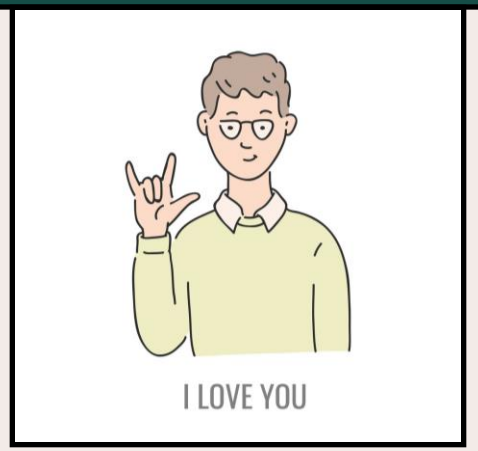
To Receive the Communication from others

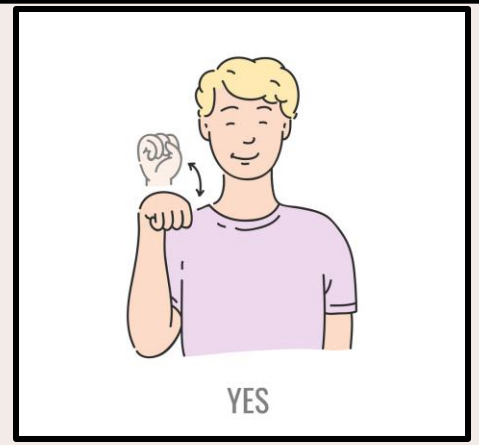
NORMAL PEOPLE

To Communicate and Understand Mute and Deaf People

YOUR SOLUTION AND ITS VALUE PROPOSITION

The system evaluates the sign input with MATLAB image processing technique and classifies the input to the recognized identification. And the output will be shown in the text format. This is a prototype to develop the concept of converting the sign language to text. The aim of this project is to provide an application to the society to establish the ease of communication between the deaf and mute people by making use of image processing algorithm.





THE WOW IN YOUR SOLUTION

1.

The module provides two-way communications which helps in easy interaction between the normal people and disables. Its also easy to Interface and flexible

2.

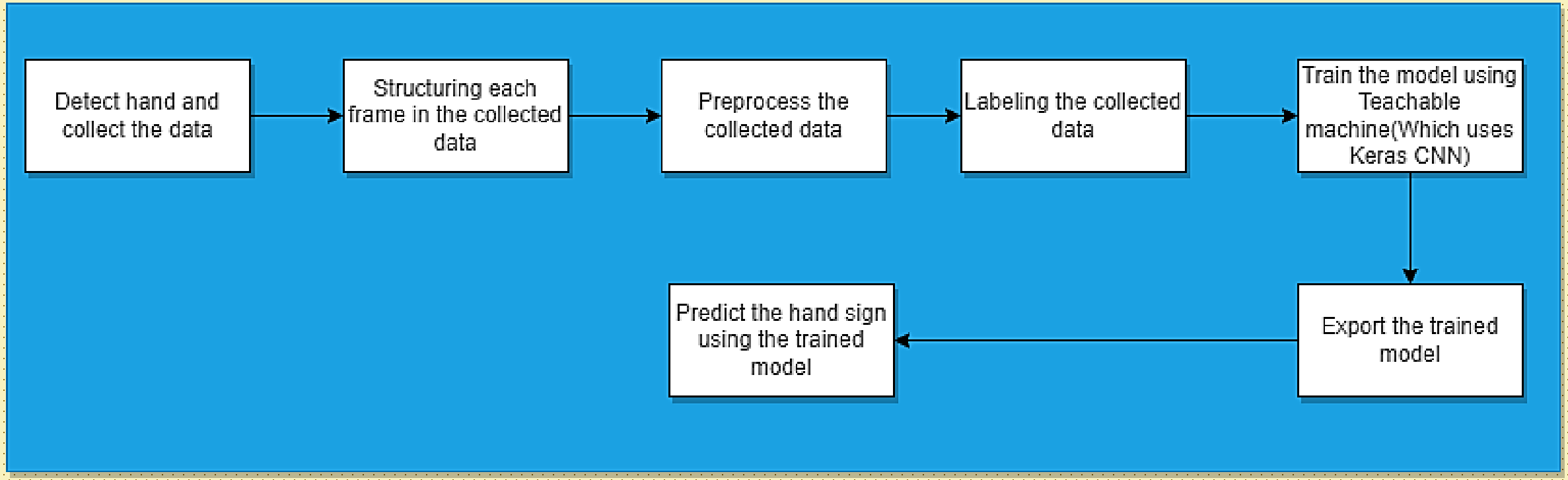
We can train n number of classes (signs) within less time-span, and it will produce more accuracy for even a small number of frames in a data set.

3.

We use Google's Teachable Machine - A fast, easy way to create machine learning models for your sites, apps, and more – no expertise or coding required.

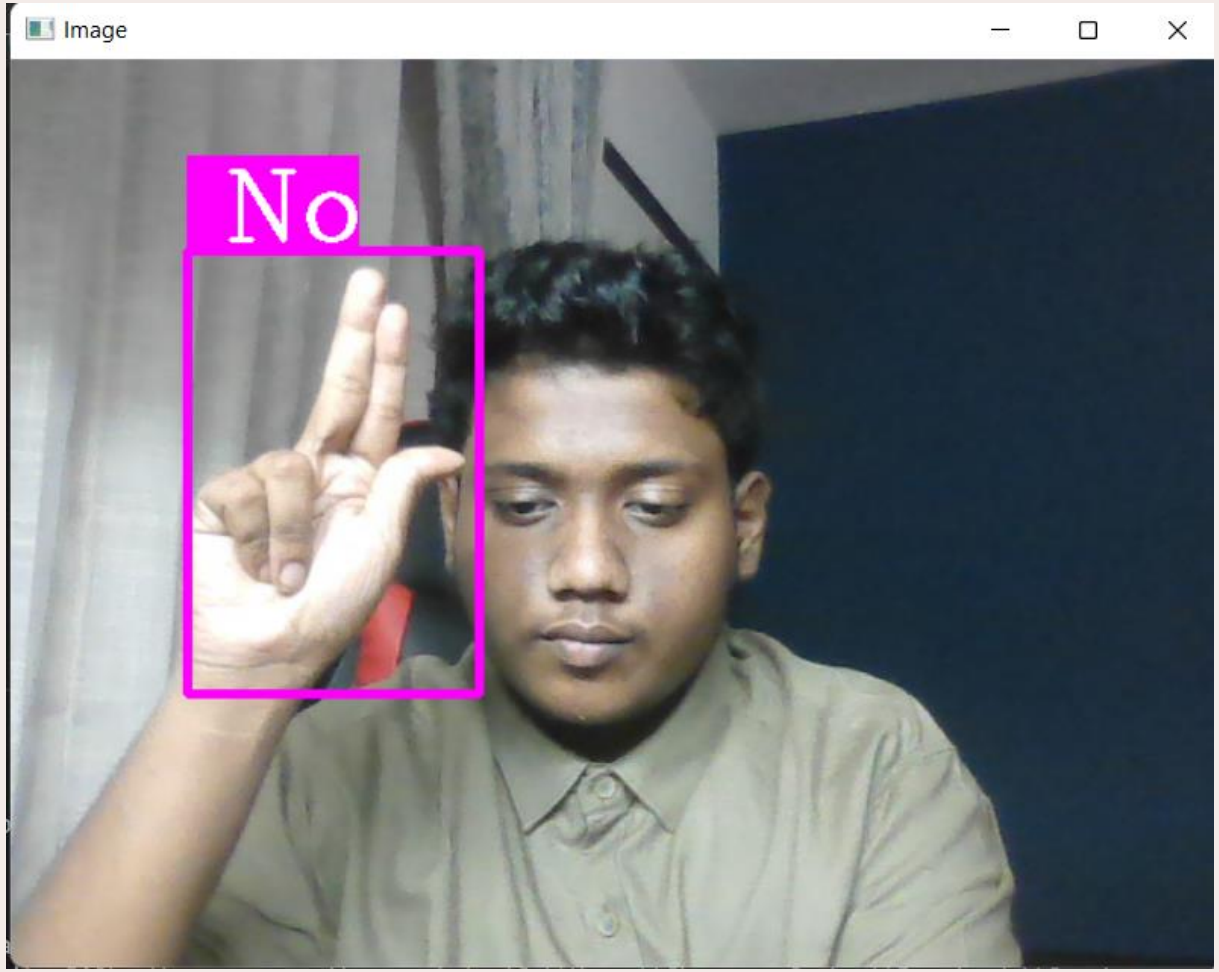
MODELING

BLOCK DIAGRAM

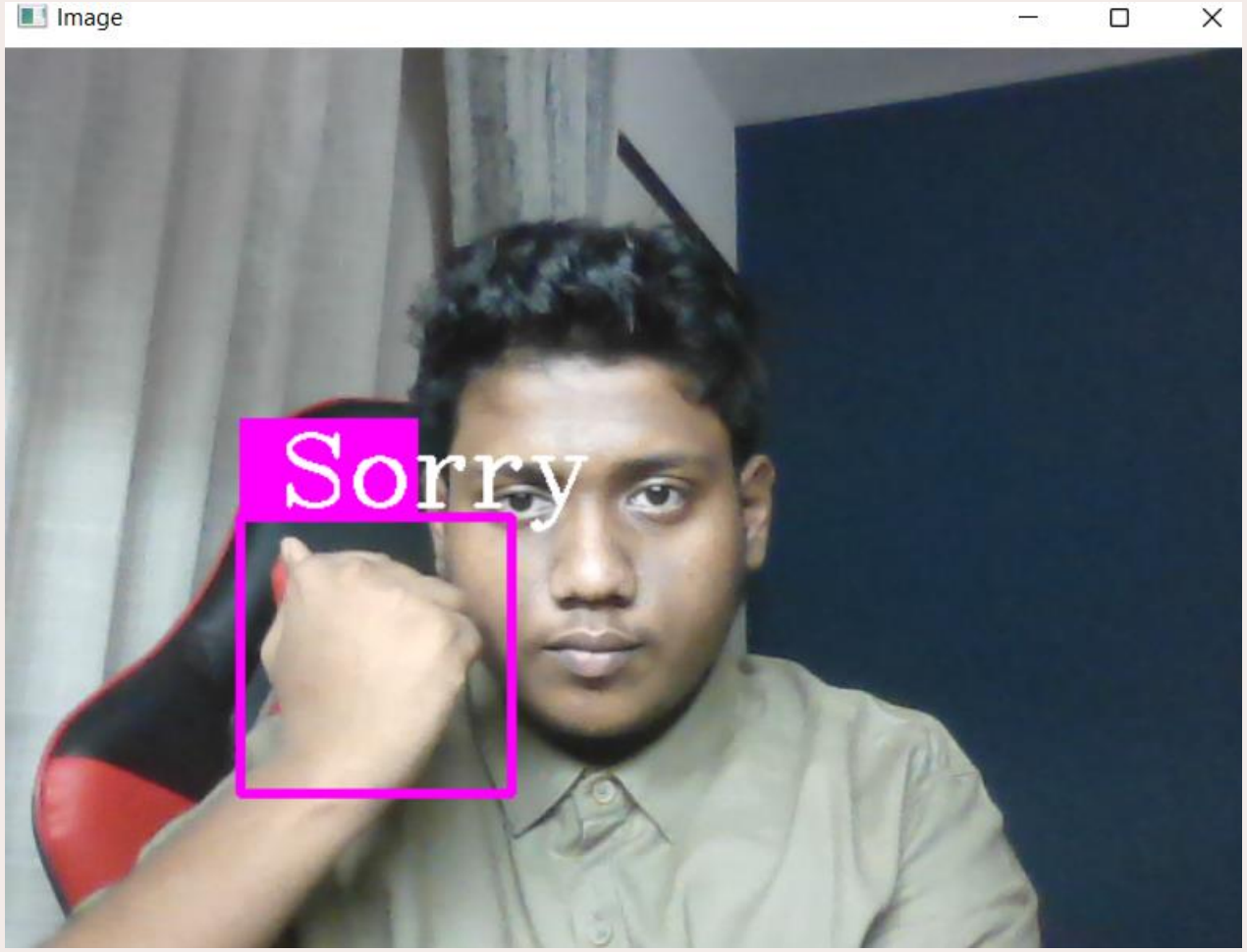


RESULT

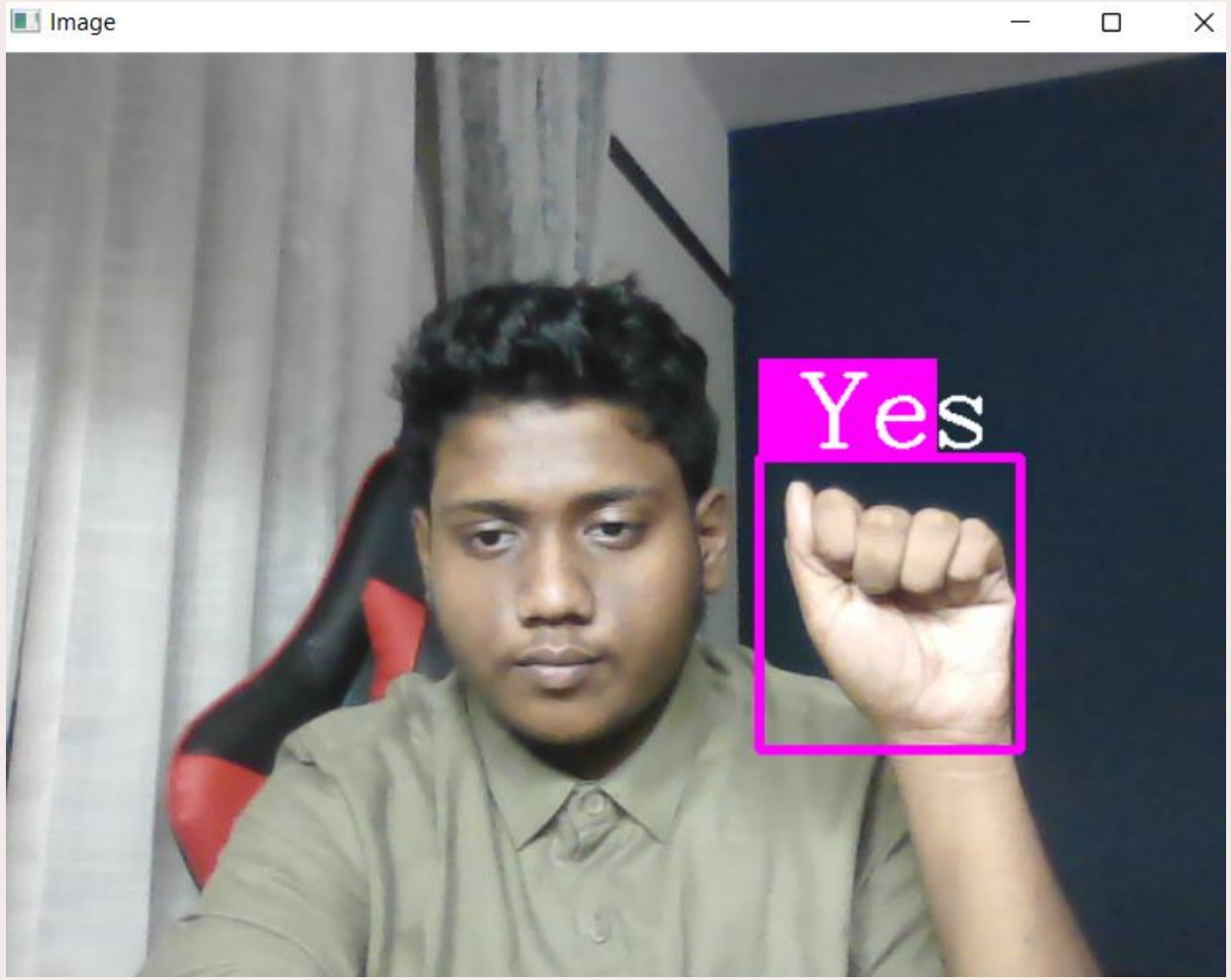
RESULT



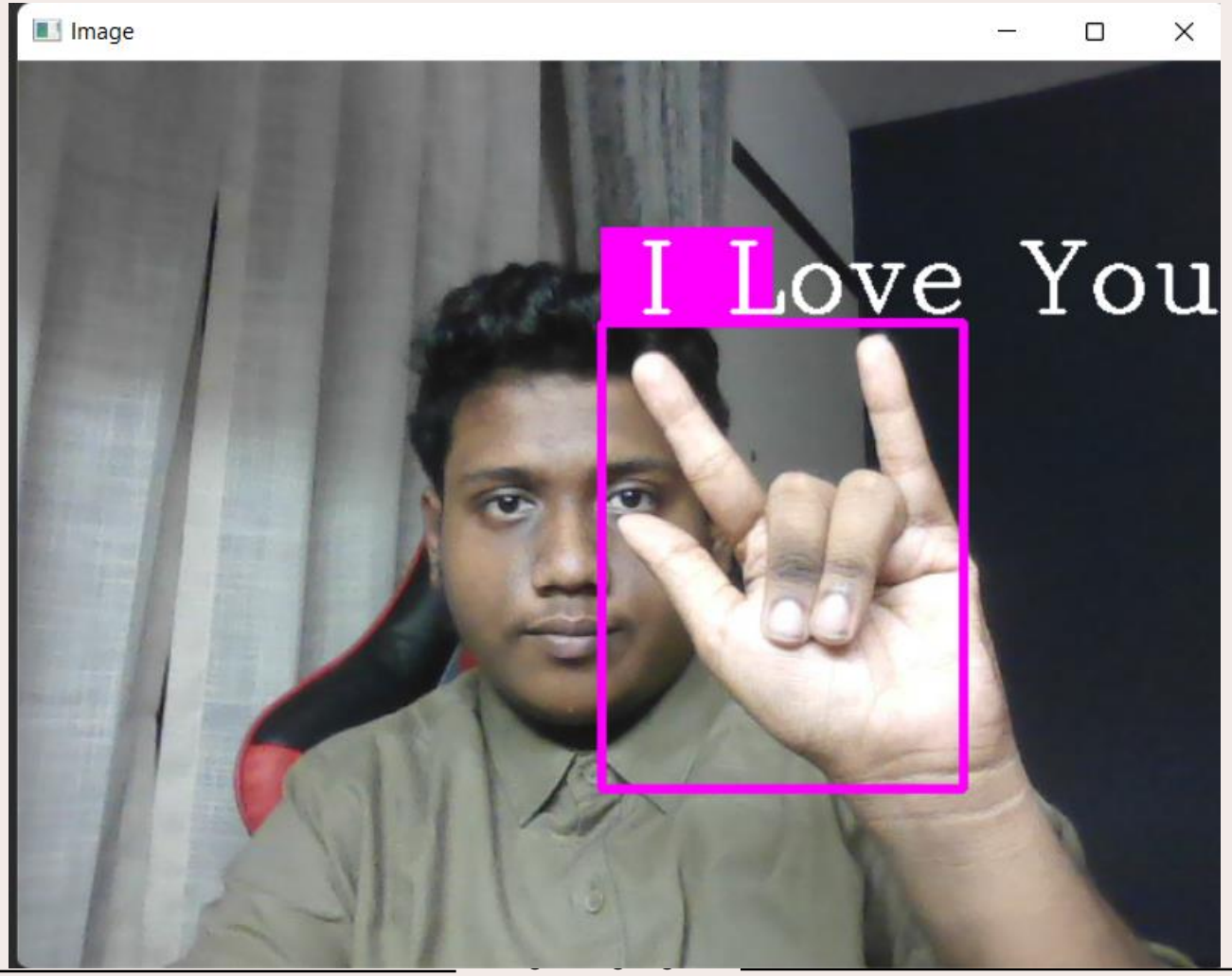
RESULT



RESULT



RESULT



Meet our team

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