



Sign Language Recognition

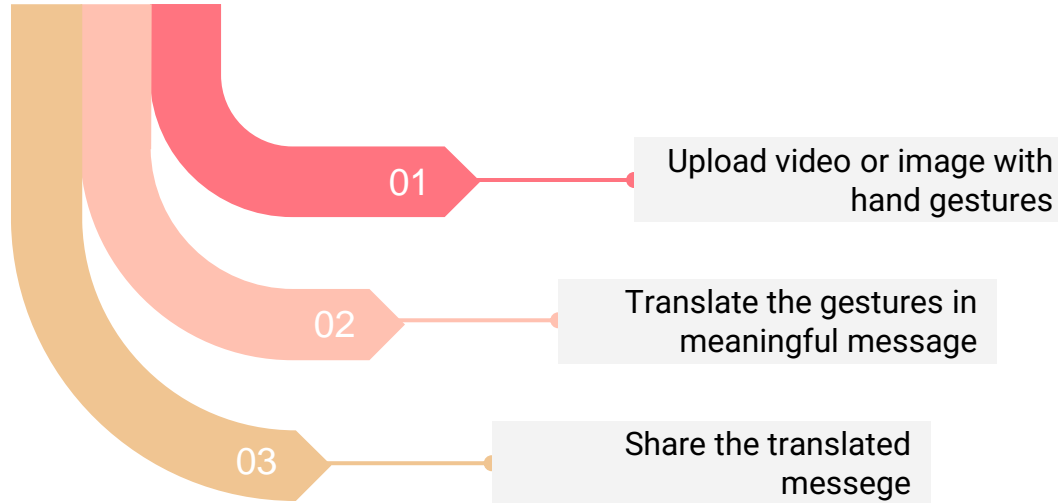
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Arpan Mandal

Introduction

Sign Language Recognition app is a medium through which we can communicate with speaking and hearing impaired people.

Functionalities:



Objectives

01

An efficient and accurate way to convert sign language to text

02

Be able to communicate with hearing and speech impaired people

03

Getting to know and learn new gestures

04

Time saving

Technology Used



Python



Numpy



TensorFlow



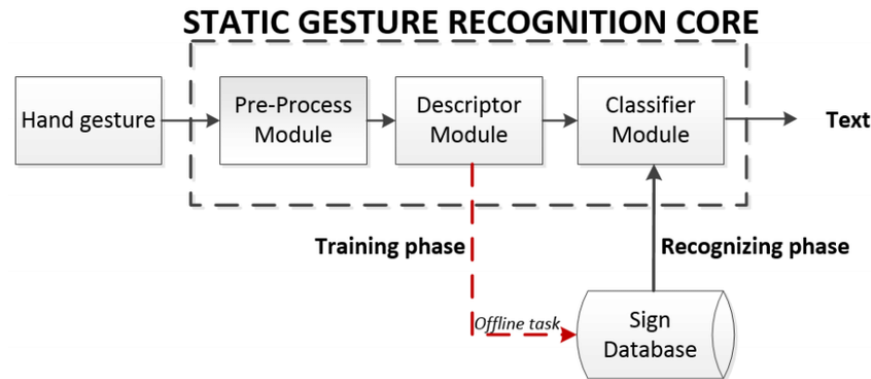
OpenCV



Keras

Teachable
Machine

Working and Methodology



Why CNN?

ConvNet is mainly used for applications in image and speech recognition. Its built-in convolution layer reduces the high dimensionality of images without losing its information.



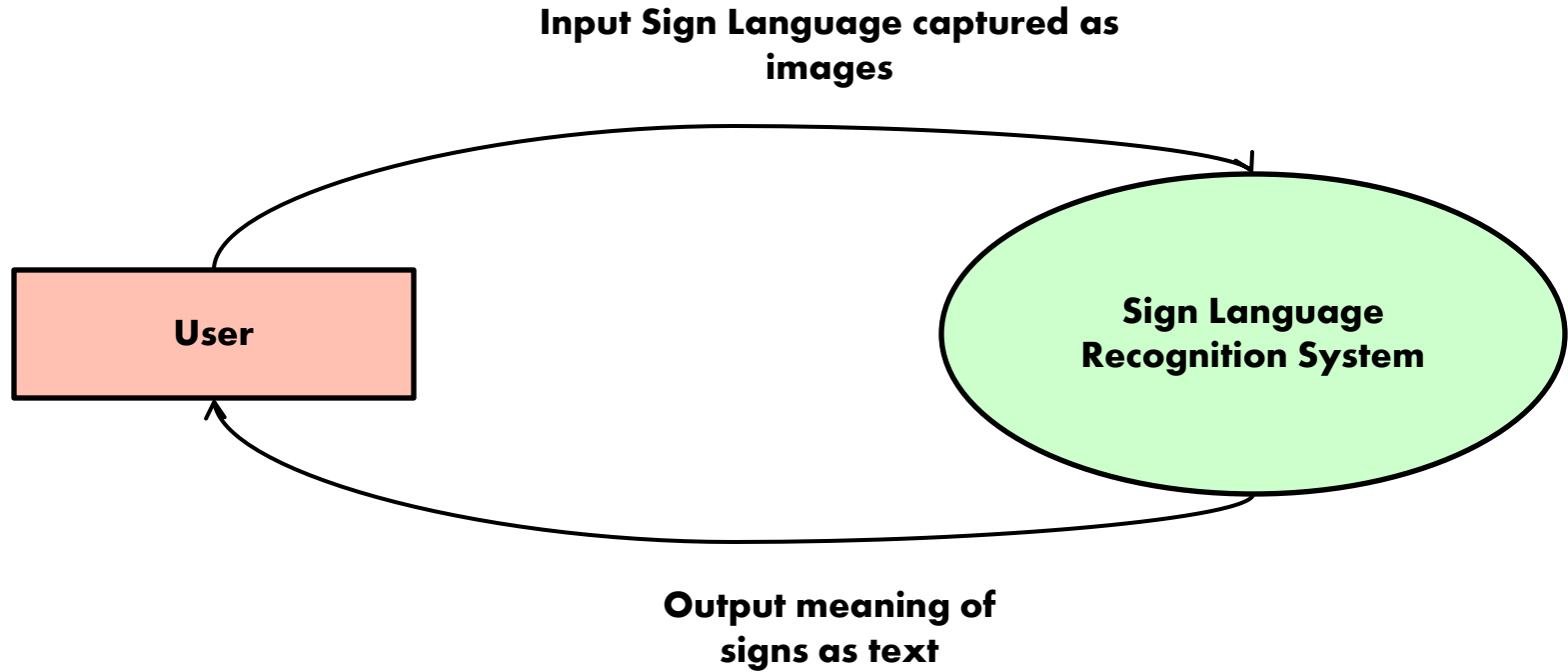
CNN automatically detects the important features without any human supervision. That's why CNN would be ideal for computer vision and image classification problem.



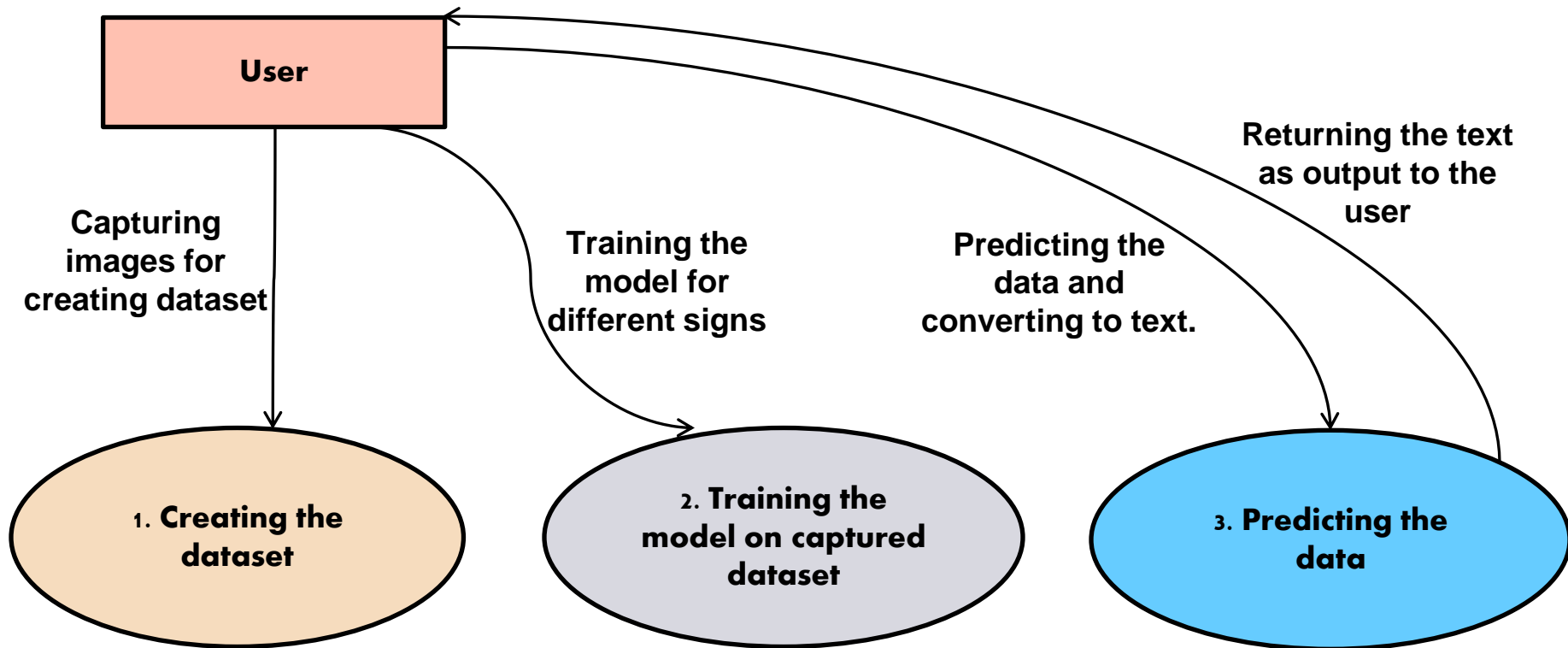
CNN divides the images in multi layers. This will help us better detect the hand signs.



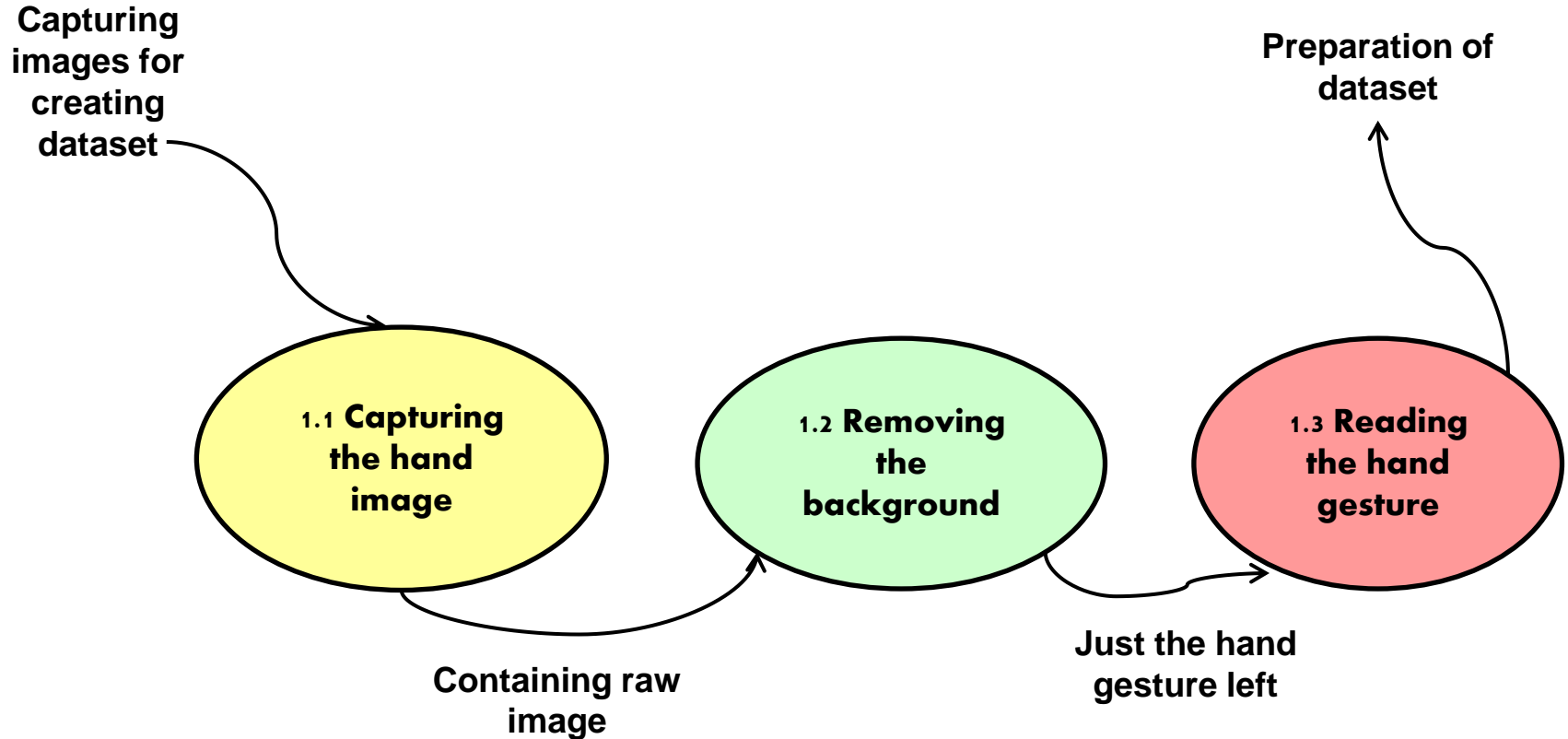
Context Level Diagram



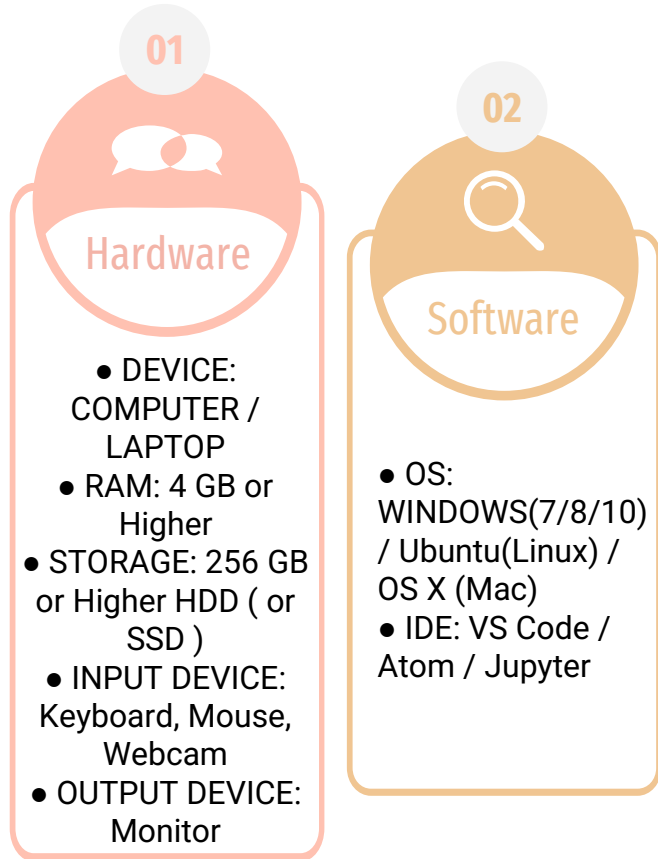
Level 1 DFD



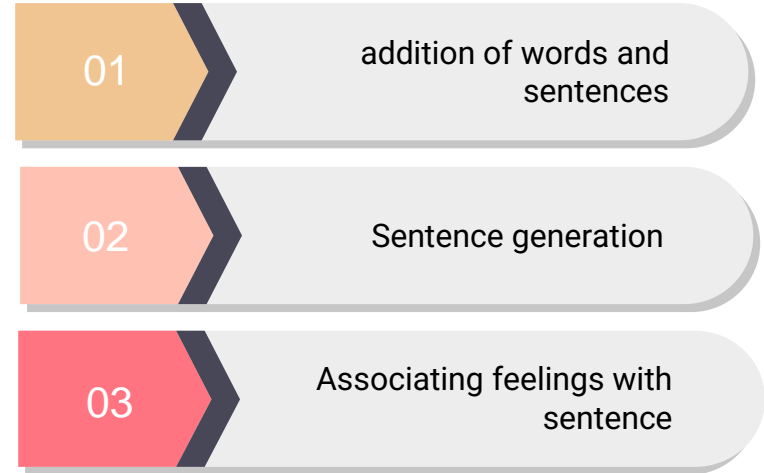
Level 2 DFD



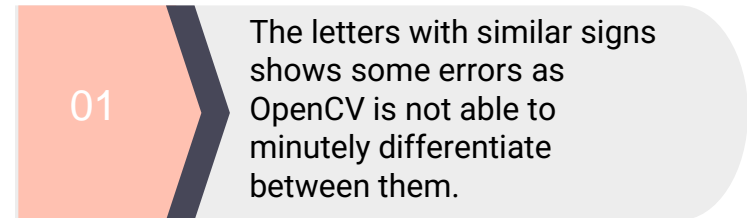
Specifications



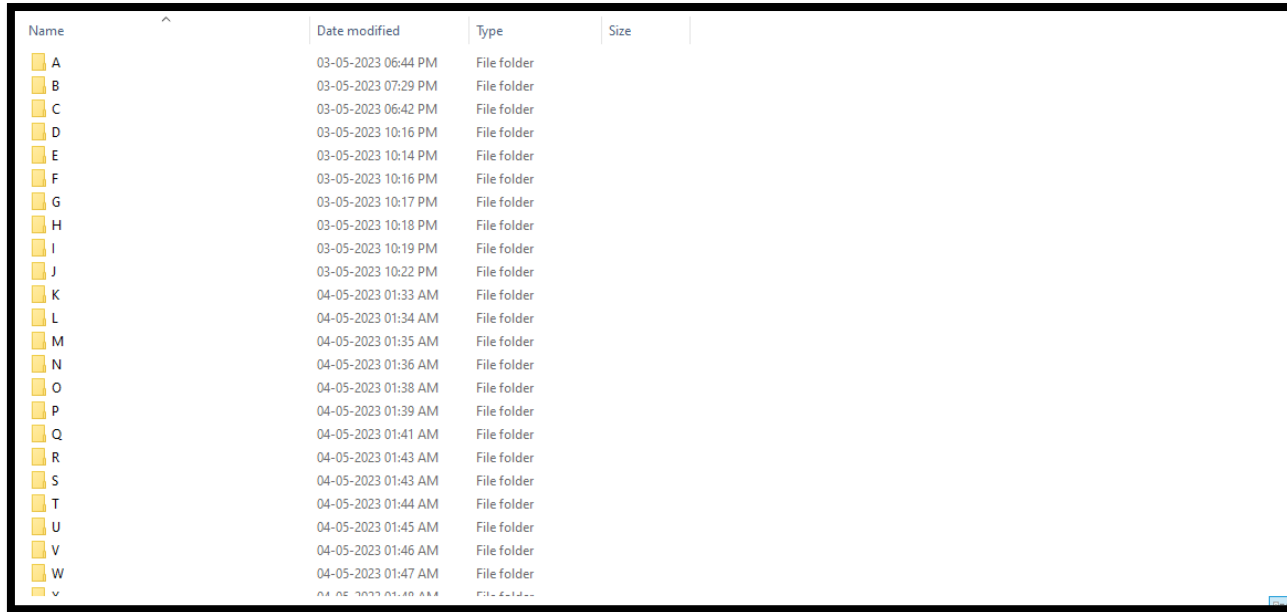
Future Scope



Drawback

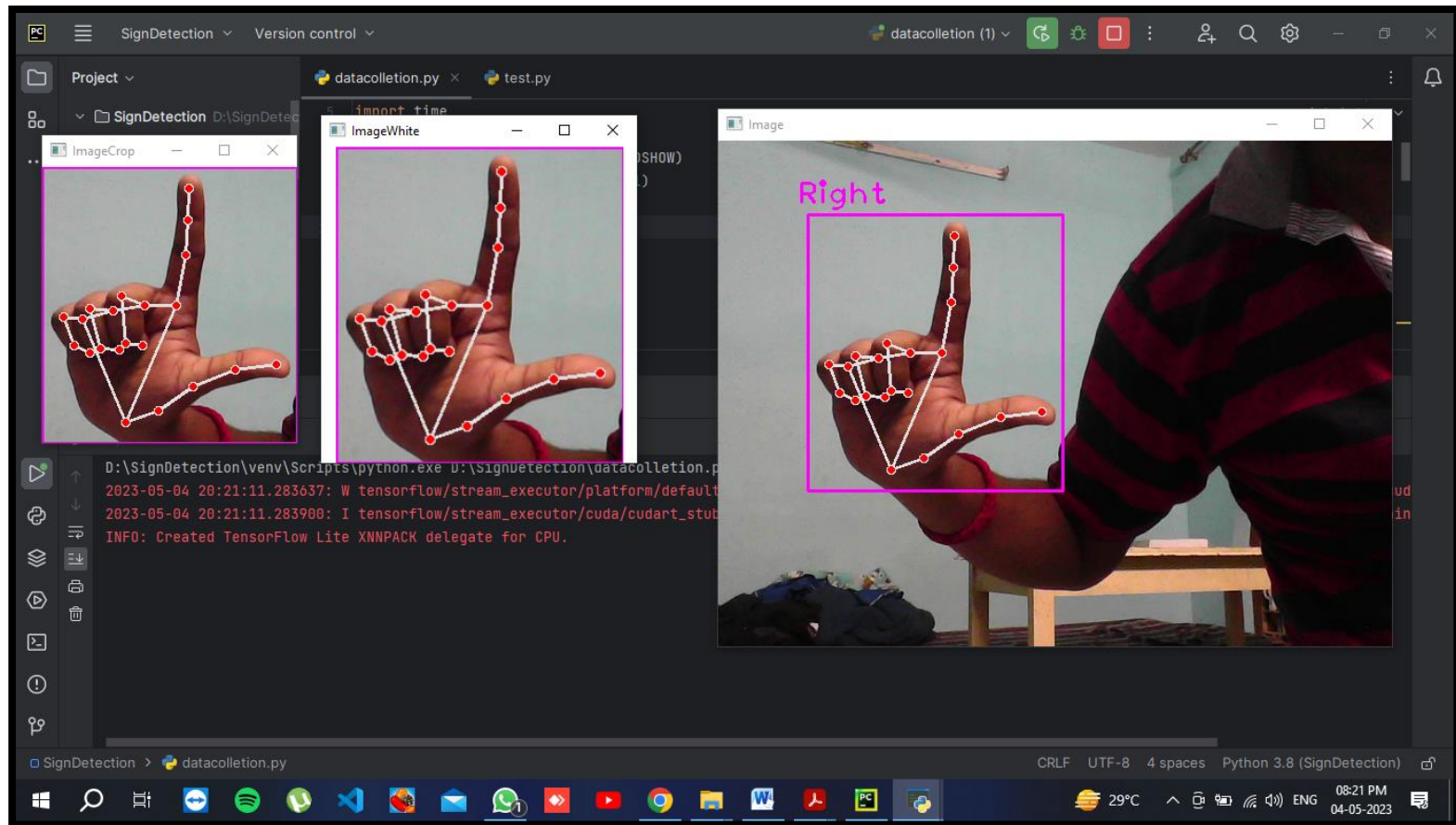


Snapshots

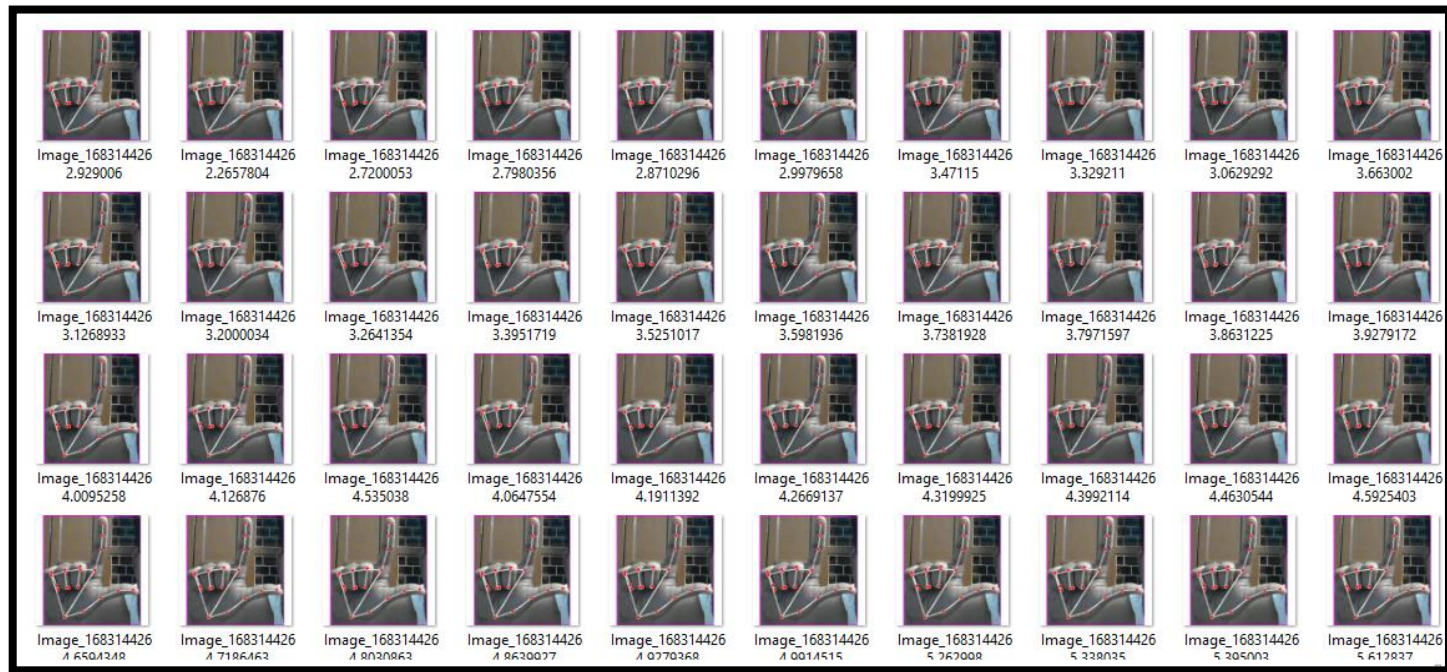


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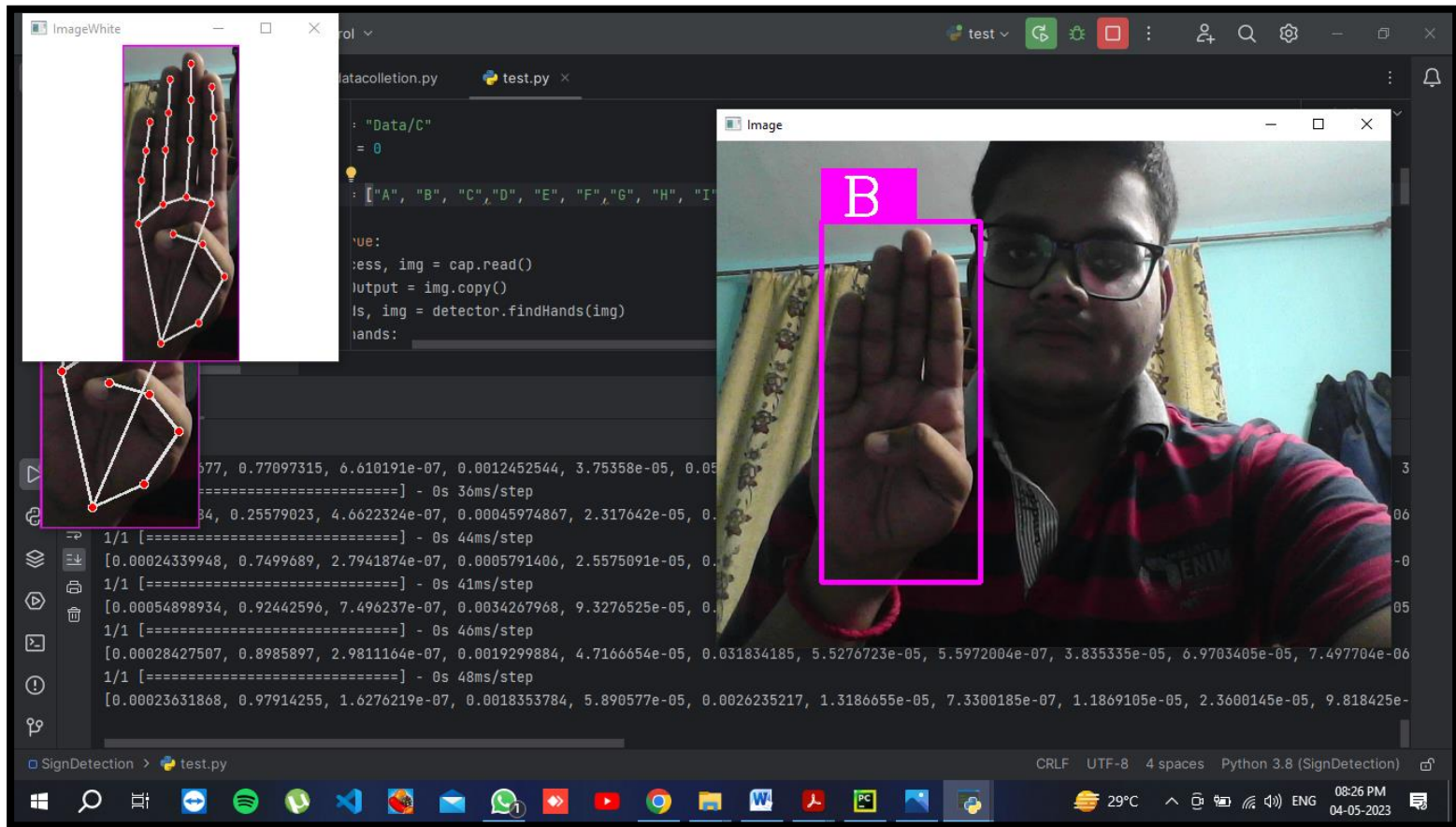
Directory for writing the dataset of captured images



The ROI for capturing images



Pictures taken for specific dataset and stored in a folder(This is the dataset taken for “L” data)



Predicting the hand gesture as shown (In this image “B”)

Thank
You

