SIGNBOARD DETECTION AND TEXT RECOGNITION USING CNN

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Abstract: Firstly, the image is uploaded from the outside environment with a smart device, followed by detection of the edge of a signboard. It will not check if the image which is captured by the device is related to the sign board or not. It will capture all types of images as input. The next phase is the detection of text and the recognition of the text into two languages such as urdu and english. Here the capture image will be check, that the image is related signboard or not. If the image is related to the signboard it displays the output. Final phase uses Artificial Neural Network for the classification and recognition of the manual extracted from the natural scenes or an outside atmosphere. This paper present , it detect the color image as input and produces the output in the form of black and white. Here the images are capture based on color segmentation and Thresholding. CNN is used to identify the type of pic. Our model has achieved accuracy about 99%.

Keywords: Traffic sign ,detection,CNN,Prediction.

I. INTRODUCTION

In expert systems, such as traffic assist driving systems or automatic driving systems, traffic sign detection and recognition plays an important role. Most of the accidents are occur due to no idea about the signboards which are placed at highways or roads.so to reduce the accidents we are using the signboard detection and text recognition which is useful to the people who are using the road transport. It help to get a clear idea about the signboards which are placed on roads. There are different types of sign boards which are known and not known by us. To overcome this problem we have used sign board detection and text recognition using CNN. It helps us to get a clear idea about the board which we have upload.It only detects only sign boards and displays the output. Some of the person don't know other languages but the sign boards are written in symbols and English in maximum cases. So we can help them in translating that in Regional languages. (we focused on mainly on English language).

II. EXISTING SYSTEM

It detects the text and symbol with MSER that enables it to detect the most characters from the traffic sign board images. Most of the systems detect the color image and display the alert message, black and white image. It just displays the message related to that board. Capturing the all board from the environment not only sign board in particular and display on screen. In most of the Existing systems all the images in the environment are captured and displayed the same. Existing system gives just a warning message to the drivers. Because of giving the warning message to the drivers they get fearful. The capture image only it will display on screen, it doesn't display any information to that image.By displaying the only image it is not useful to the user. Urdu text is very difficult to display the image output. Because of the cursive nature. So develop the related that by capturing the image and displaying the output. Existing system is useful to the drivers to get a clear idea about the sign images. Based on the weather conditions it gives the alert message to the driver to go slow by reducing the speed and to avoid the accidents.

III. PROPOSED SYSTEM

Signboard detection is used to avoid accidents because most people don't have any idea about the information related to signboards. Firstly the image is captured from the outside environment with the help of boundary lines, followed by detection of the edges of a signboard. Speed limit image can also be captured from the environment and display the information.it will capture all types of signs like Mandatory, Cautionary, Informatory. Firstly the new user has to sign up the page by giving the name, password, email, username. It opens the sign board. Speed limit should not exceed 100 Kmph then if the person reaches more than 100 Kmph it raises the alarm and it helps reduce the road accidents. Some of the people don't know other languages but sign boards are written in English in maximum cases. So we can help them in translating that into regional languages. If any image is detected which is not related to the signboard it just displays a

message that the image is not related to signs. Here we are going to use CNN algorithm(it detects the text and recognizes text).CNN is very useful to detect the images. It takes the only required images and displays the related information.

A) Advantages of Proposed System:

- In our proposed system, we have used a large data set considering the sign board only, whereas in the existing system it will capture all the images which are present in the environment.

- It translates the sign board in the required language.

- Easy to built

IV. LITERATURE SURVEY

This paper purposes to design a system capable of performing traffic sign detection while considering variations of challenges such as color illumination, computational difficulty and functional constraints existed. Traffic sign detection is divided into three main parts namely; Pre-processing, Color segmentation and Thresholding. The color segmentation method is vital as it presents a detailed investigation of vision based color spaces in this case RGB, HSV and CMYK considering varying illumination conditions under different environments

Urdu text needs further attention in detection and recognition due to its cursive nature. Urdu detection and recognition are also difficult due to a wide variety of illuminations, low resolution, inconsistent font styles, color, and backgrounds.

Neural-time approach for fast and accurate framework for traffic sign recognition [1]. Which superimposes virtual objects onto a real scene under all types of driving situations, including unfavorable weather conditions and gives a voice alert with the help of speakers. Show that the joint learning greatly enhances the capability of detection and still retains its real time performance
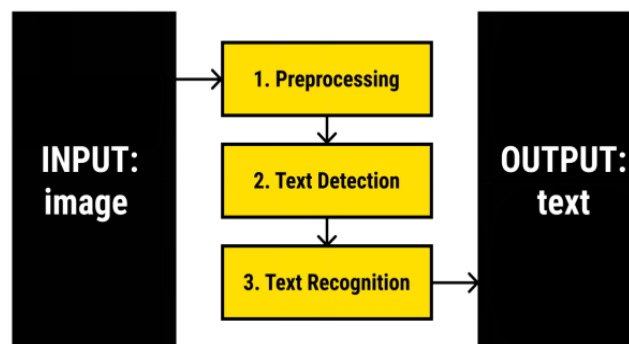
V. ARCHITECTURE

Fig. 1 : Architecture of the System

VI. IMPLEMENTATION PROCEDURE

First the user has to open the command prompt and run the login _ clientapp.py. The User interface will be opened, and then the user gets registered first then login into their accounts. After login into the account User has to upload the image and click on the prediction then our details will be displayed. In the System the algorithm gets started running the model the screen will display the output. This is how our project gets run.
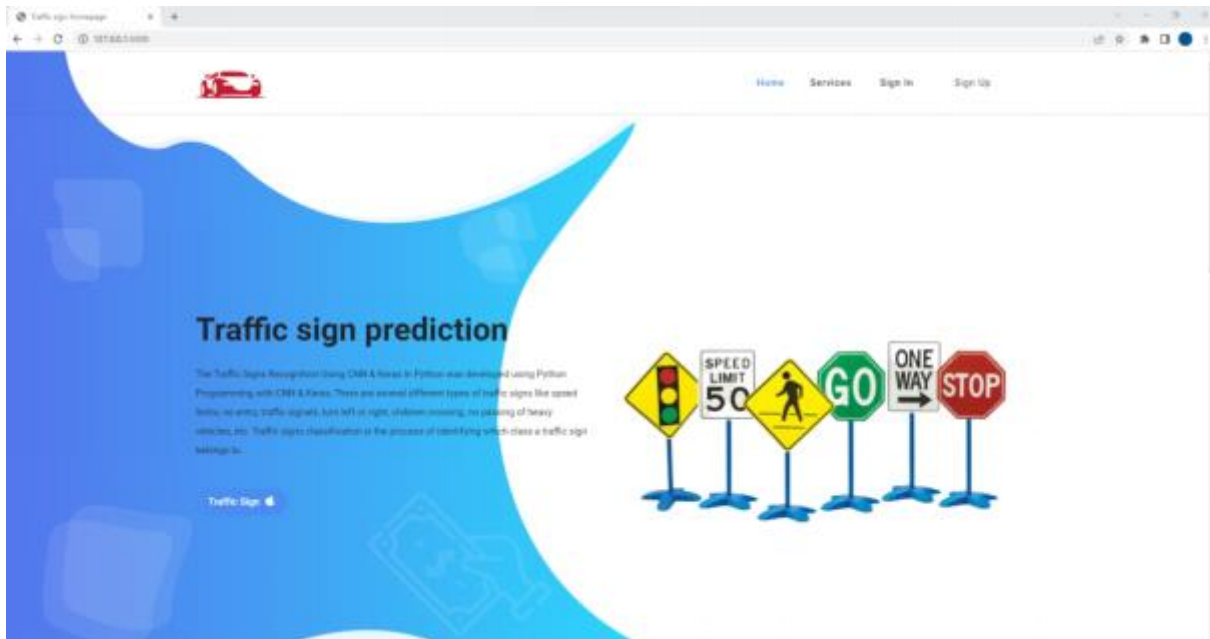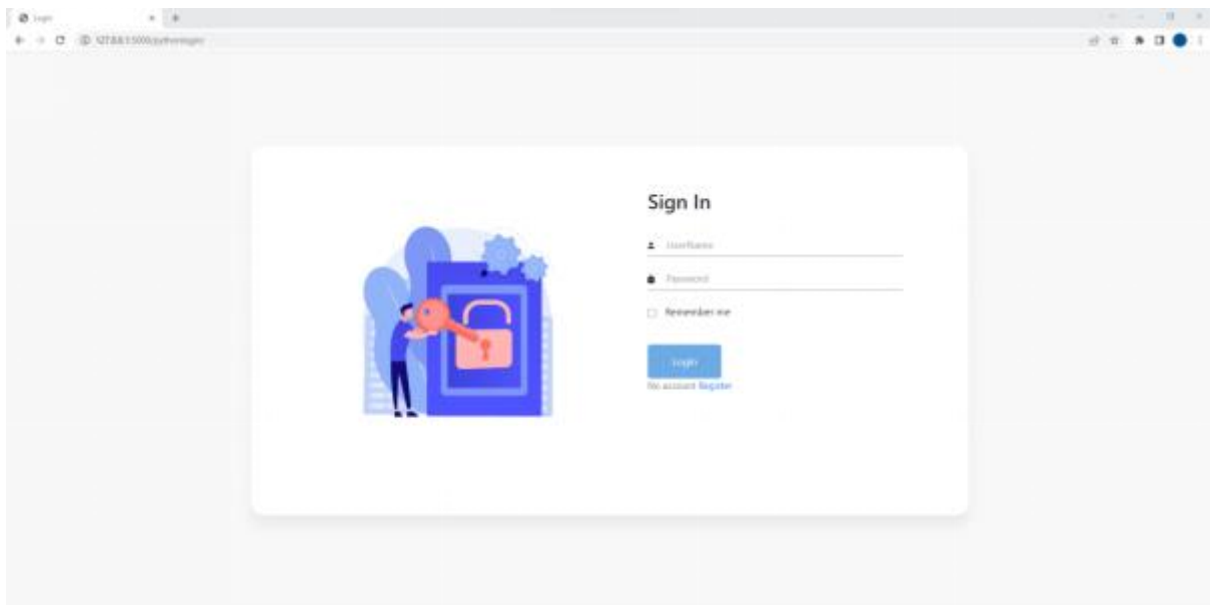
VII. OUTPUT
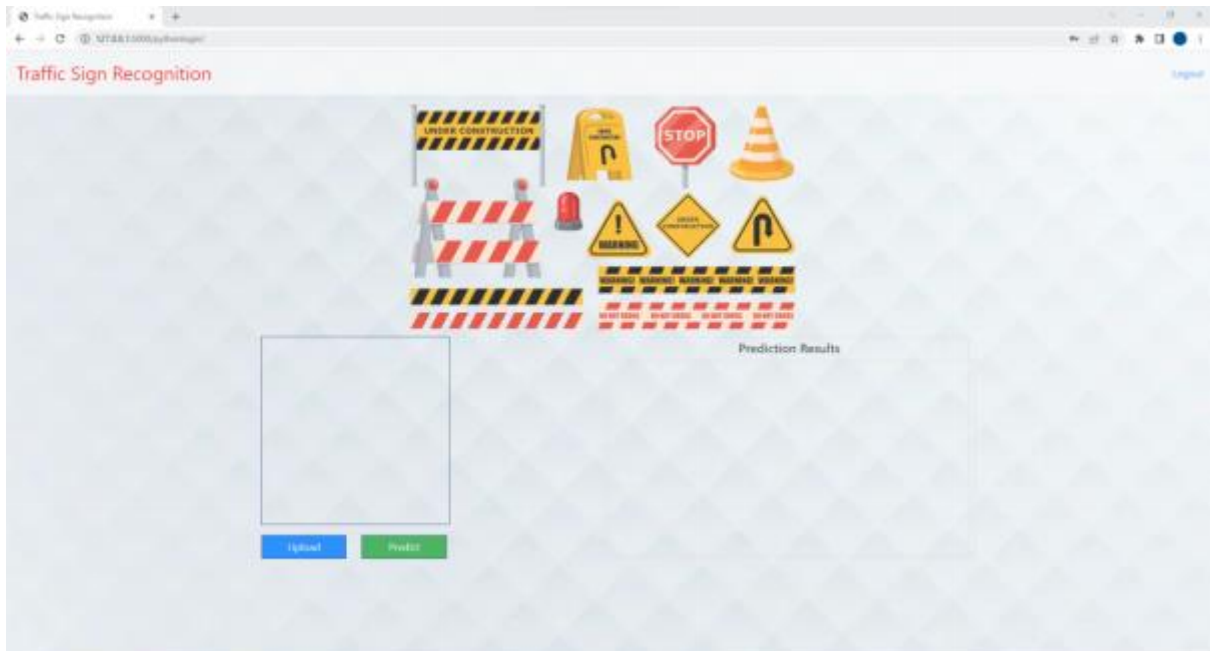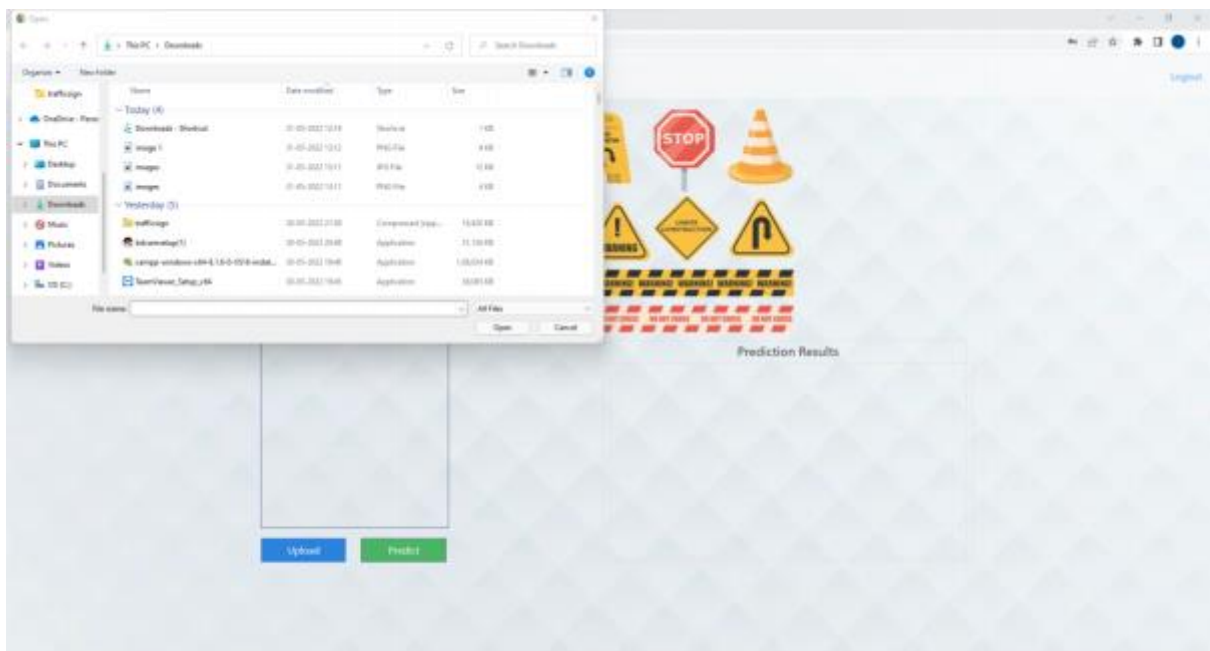

Fig. 2: Home page

Fig. 3: Signup Page
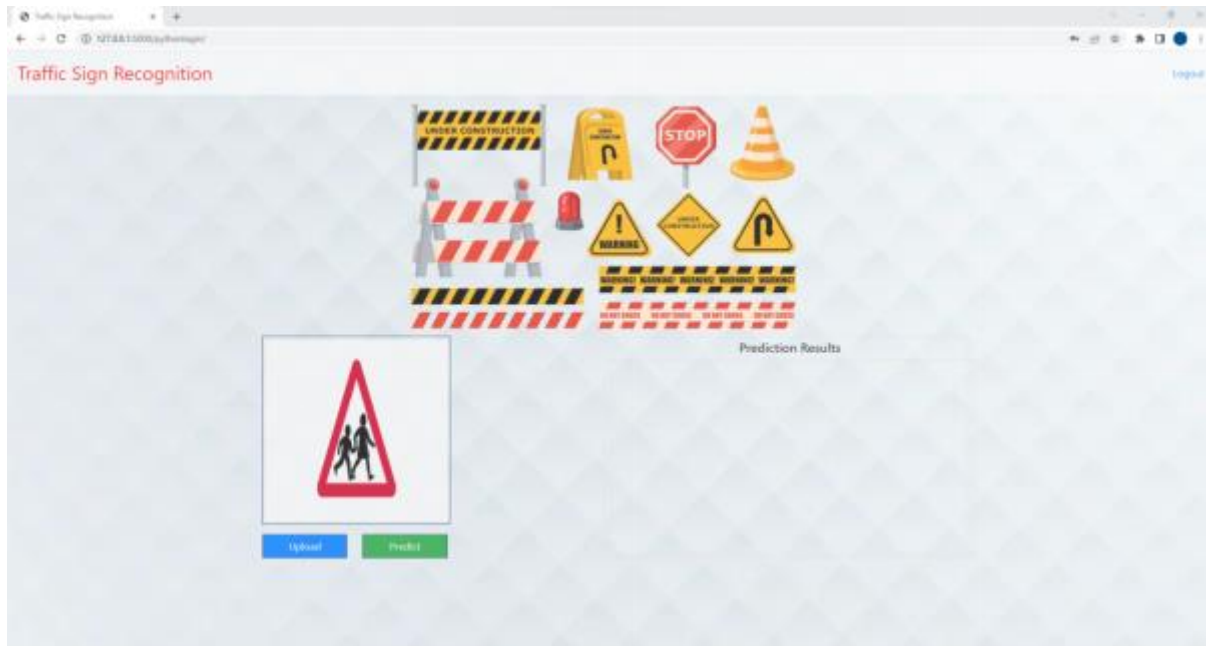
Fig. 3: Input Screen 1

Fig. 4: Intput Screen 2

Fig. 5: Output Screen 3

VIII.   CONCLUSION AND FUTURE ENHANCEMENT

In this paper, the proposed system is that signboards are detected from the environment and image is captured based on the boundary lines and the image is uploaded, based on that related information is displayed. This project introduces a CNN based approach for the recognition and detection of images preprocessing which we have to upload images. Based on the image we have uploaded it processes it and produces the output.If we upload any type of images it will be taking an internal process we are done and display the image only as output. If we upload the image which was not related to the signboard image it displays the output as not a sign. We have developed the project based on displaying the output in one language(Eng). After uploading the image there will be an internal process done by CNN.

A) **Future scope contains yet it is not limited to:**

These techniques are used for detecting the signboard from the environment with the help of boundary lines. We can extend this work by developing the app in the phone but the images are captured from the environment with the smart device and capture image information we can display in the device or get the notification to mobile through message form or through voice message like as google as maps. We can extend this work by uploading the video based on that if there are any sign boards in the video it captures that image and displays the information related to that image in the video. The image which is captured from the environment that image information can display through voice that helps the uneducated user.

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