



Review Paper on License Plate Recognition System

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ABSTRACT: There are exceptionally enormous number of vehicles in India as it is densely populated nation across world. There is a need of distinguishing vehicles precisely. This framework identifies the picture of the number plate of a vehicle from video, the number is extracted utilizing various techniques and calculations. The framework is appropriate for passageways of gates like colleges. At the point when any vehicle passes by the framework the video is caught and afterward video is changed over into pictures.

The methods include grayscale which turns the colorful image into grayscale, binarization which further converts the grayscale image into the black and white version, license plate detection which is to search for location of the license plate, character segmentation which separate the extracted characters individually and character recognition to transform the pixel into meaningful information. The system has demonstrated more than 90% success rate. In addition, the performance issue has addressed by omitting some pre-processing such as contrast enhancement, noise filtering, and histogram equalization.

Keywords: Automatic License Plate Recognition (ALPR), License Plate (LP), License Plate Recognition (LPR)

I. INTRODUCTION

There are huge number of vehicles in today's age. So, it is important to keep track on vehicles. In today's world we can utilize computers to keep track any vehicles without physically looking keeping track on vehicles due to which there will be better accuracy. Consequently, vehicle number plate recognition is an innovation utilized which distinguishes the number plate from video caught by the camera. It utilizes strategies like extraction of number plate, division, character recognition, etc.

The various researchers have proposed various techniques for each step and each individual strategy has its own advantages and disadvantages. The method for recognizing license plate includes the three main steps. That is the region of extraction of interest, extraction of plate numbers and recognition of character.

The initial step is capturing the vehicle picture with the LP from the camera. The computerized picture is then prepared to some helpful data by applying some picture handling methods. After obtaining the image, the grayscale features take place to the input image which is to find the average color value from the three main component color which are red, green and blue (RGB). After that, the grayscale image is further processed to the binarization and transform the grayscale image to only black and white for future use. With the image in black and white, the system performs license plate detection by searching through rectangle made up with all four white edges in the image which possibly contains the characters within. This step is crucial as the characters may not be detected when the license plate portion is incorrect. After cropping out the detected license plate, the system segments the characters into individual for the recognition purpose. After that, the segmented character is undergone through a process known as template matching one by one to find the most similar character from the pre-defined character template.

extracted characters individually and character recognition to rework the pixel into meaningful information. The system has demonstrated quite 90% success rate. Additionally, the performance issue has addressed by omitting some pre-processing like contrast enhancement, noise filtering, and histogram equalization [5].

III. Conclusion

Reviewing all the concerned Research Papers and Articles it can be thus concluded that device with powerful image processing technique can easily detect and identify interested vehicle's number plates. ANPR systems play an vital role within the growth of the smart transport network. Recognition may use the image processing technique combined with neural networks to identify the number plates. Detection of objects and neural networks is beneficial for detecting side views or tilted images and moving images from distance. For potential recognition systems, the choice is to use high-resolution cameras with an increased number of frames for good accuracies and improved accuracy for recognition in future.

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