Name Plate Recognition

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***Abstract*—Cars can have different kinds of number plate which mainly carries the license number of that vehicle . This paper mainly represents how the number plates can be easily recognized and can be verified in case of any rule violation cases or on any fatal street collision case or in any car robbery cases . Bangladeshi car owners has the tendency of changing the typeface and design of the number plate . This paper is mainly going to focus on designing a recognition system which will be able to detect any kind of number plates . To increase the effectiveness of scanning the number plates . We have used the most recent version of You Only Look Once (YOLOv3) in this case . YOLOv3 is an object detection method which converts the scanned version of the license plate into a raw image then we collect data from that one .**

***Index Terms*—**

I. Introduction

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II. Literature Review

Number Plate recognition is necessary to identify those cars which has break traffic rules . There are many approaches for number plate recognition which mainly differs depending on the characters used in that language . For example , in [5] , the author has described an approach to detect Malaysian license plates where single and double lines dose not matter . That approach has 96 percent character segmentation accuracy and 76 percent character recognition accuracy . In [6] author has used inception method to extract license plates from unclear and poor quality photos . Mainly the author focused on the character recognition and extraction technique . This paper offers accuracy of 98.04 percent . The United Kingdom's number plate recognition in [6] has used OCR technique for extraction . The research has done their work on various types of real world elements like typeface variety , having different spacing , different color . In [2] , Qadri and Asif M. employed the ANPR method to identify license plates. There are two main types of ANPR systems: software models and hardware models. The ANPR algorithm is essentially separated into three sections: Identify the digits from the plate you took from the image. They initially took pictures, then searched for yellow pixels with a yellow search technique, removed any patches with image filtering, and adjusted the pixel values to 0. then applied a smearing algorithm to finish extracting the images. then used row segmentation to split the line. Characters were then divided using column segmentation. The characters were identified using OCR for the finished product. To identify the license plate characters in [1] Omran S. and Jarallah A. performed image acquisition first, followed by image processing then tophat filtering. The three types of Iraqi license plates were then distinguished. After binarizing the images, they began the process of image preprocessing. They separated the license plate after that and used OCR to identify the characters. A technique to identify license plate in [4] numbers was put out by Anagnostopoulos E. et al. Using a computer vision and character recognition method for license plate recognition (LPR), a core for intelligent infrastructure such as electronic payment systems for freeways and arterial management systems for traffic surveillance is described in this work. Sliding concentric windows (SCWs), a revolutionary segmentation method, is used to locate regions of interest more quickly (RoI). They made use of PNN technology in their research.

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III. Methodology

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