



A Video Surveillance System for Speed Detection of Vehicles and Law Enforcement using Automatic Number Plate Recognition

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Abstract: — The aim of the research work presented in this paper is to develop a system for speed detection of vehicles and law enforcement using automatic number plate recognition. The image processing has been used for smart traffic surveillance system. Overall work for system comprises of software development and hardware development. Approach uses a single camera system mounted on a pole or traffic light which detects the over speeding vehicle and extracts its number plate. The system works by capturing the video frame of the moving object and by using image processing obtain its differencing image, binary image. Algorithm then proceeds to label all connected components, bounding box and center of image is extracted to calculate its speed. The algorithm is designed to estimate speed of vehicle on linear and circular path. The algorithm also captures the frame of moving vehicle for its record. On speed violation algorithm detects the number plate information using optical character recognition technique.

Keywords— Background subtraction, bounding box, Image Processing, MATLAB, Speed detection, number plate recognition, Optical Character Recognition.