Smart E-Challan System for Two Wheeler Traffic Violators

Darshana Pawar[1], Rutuja Gawali[2], Sherya Shinde[3], Prachi Wagh[4], Prof. M. S. Khan[5]
Students, Department of Information Technology[1,2,3,4]
Professor, Department of Information Technology[5]
Matoshri College Engineering, Nashik, Maharashtra, India

Abstract: *Motorcycles have always been the primary mode of transportation in developing countries. Motorcycle accidents have increased in recent years. One of the main reasons for fatalities in accidents is that a motorcyclist does not wear a protective helmet or travel as a triple seat. The most common way to ensure that motorcyclists wear a helmet or triple seat is by traffic police to manually monitor motorcyclists at road junctions or through CCTV footage and to penalize those without a helmet. But it requires human intervention and effort. So this System Proposes an automated system for detecting motorcyclists who do not wear a helmet and retrieving their motorcycle number plates from CCTV video footage .First, the system classifies moving objects as motorcycling or non-motorcycling. In the case of a classified motorcyclist, the head portion is located and classified as a helmet or non-helmet. Finally, for the motorcyclist identified without a helmet, the number plate of the motorcycle is detected and the characters on it are extracted by using the OCR algorithm.*

Keywords: Helmet Detection, plate detection, Image Selection, Extraction, Machine learning

REFERENCES

[1]. KunalDahiya, Dinesh Singh, and C Krishna Mohan. Automatic detection of bikeriders without helmet using surveillance videos in real-time. In 2016 International Joint Conference on Neural Networks (IJCNN), pages 3046–3051. IEEE, 2016.

[2]. PathasuDoungmala and KatanyooKlubsuwan. Helmet wearing detection in thailand using haar like feature and circle hough transform on image processing. In 2016 IEEE International Conference on Computer and Information Technology (CIT), pages 611– 614. IEEE, 2016.

[3]. Romuere Rodrigues Veloso e Silva, KelsonRoˆmuloTeixeira Aires, and Rodrigo de Melo Souza Veras. Helmet detection on motorcyclists using image descriptors and classifiers. In 2014 27th SIBGRAPI Conference on Graphics, Patterns and Images, pages 141–148. IEEE, 2014.

[4]. Hui Li and ChunhuaShen. Reading car license plates using deep convolutional neural networks and lstms. arXiv preprint arXiv:1601.05610, 2016.

[5]. Jie Li, Huanming Liu, Tianzheng Wang, Min Jiang, Shuai Wang, Kang Li, and Xiaoguang Zhao. Safety helmet wearing detection based on image processing and machine learning. In 2017 Ninth International Conference on Advanced Computational Intelligence (ICACI), pages 201–205. IEEE, 2017.

[6]. Adrian Rosebrock. Basic motion detection and tracking with python and opencv. l´ınea]. Disponible en: http://www. pyimagesearch. com/2015/05/25/basic-motion-detectionandtracking-with-python-and-opencv. [Accedido: 13 de Julio, 2017], 2015.

[7]. C Vishnu, Dinesh Singh, C Krishna Mohan, and SobhanBabu. Detection of motorcyclists without helmet in videos using convolutional neural network. In 2017 International Joint Conference on Neural Networks (IJCNN), pages3036–3041.IEEE2017.