

Traffic Violation Detection and Control

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Abstract: *The purpose of this paper is to understand the role & requirement of automation in the traffic management domain. With number of vehicles increasing daily & India being the nation with largest number of 2-wheelers, its Important to track vehicles at an increasing pace than the convention systems in place. We aim to use a system using CV (Computer Vision) & YOLOv5 object detection for classifying vehicles in different categories, considering the vast amount of travel modes used in the Indian Peninsula like Autos & 2-wheelers.*

Keywords: Traffic, Violation, Detection

REFERENCES

- [1]. J. Won et al., "An Improved YOLOv3-based Neural Network for De-identification Technology," 34th International Technical Conference on Circuits/Systems, Computers and Communications (IT C-CSCC), Korea, 2019.
- [2]. N. Krittanawach et al., "Robust Compression Technique for YOLOv3 on Real-Time Vehicle Detection", 11th International Conference on Information Technology and Electrical Engineering (ICIT EE), Pattaya, Thailand, 2019.
- [3]. H. Qu et al., "A Pedestrian Detection Method Based on YOLOv3 Model and Image Enhanced by Retinex," 11th International Congress on Image and Signal Processing, Bio Medical Engineering and Informatics (CISP-BMEI), Beijing, China, 2018.
- [4]. R. J. Franklin and Mohana, "Traffic Signal Violation Detection using Artificial Intelligence and Deep Learning," 2020 5th International Conference on Communication and Electronics Systems (ICCES)
- [5]. Song, H., Liang, H., Li, H. et al. Vision-based vehicle detection and counting system using deep learning in highway scenes. Eur. Transp. Res. Rev. 11, 51 (2019). <https://doi.org/10.1186/s12544-019-0390-4>
- [6]. Traffic Rules Violation Detection using Deep Learning, November 2020, DOI:10.1109/ICECA49313.2020.9297495, Conference: 2020 4th International Conference on Electronics, Communication and Aerospace Technology (ICECA)