

Vehicle Number Plate, Speed Detection & E-mail Alert using Machine Learning & HTML

Atul Dharne¹, Vaibhav Bhalerao², Prof. S.T. Sawant Patil³

Student, Department of Electronics and Telecommunication^{1,2}

Assistant Professor, Department of Electronics and Telecommunication³

Sinhgad Academy of Engineering, Pune, Maharashtra, India

Abstract: *The value of data has increased exponentially in recent years. Organizations are using online data to enhance their product and data interpretation. If traffic data from cars on the road can be easily obtained from videos, it can be very useful. In contrast to regular data traffic, surveillance videos contain an enormous volume of data that remains unprocessed, resulting in information loss. The aim of our project is to develop a method for retrieving vehicle data from videos that is both efficient and reliable. The vehicle's license plate number, colour, manufacturer's name, and time-stamp are all included in this information. The information will then be used for a variety of purposes. This information would aid in a more in-depth examination of road traffic. This research would aid in the gathering of information that will aid in the improvement of road transportation in the future. Additionally, since the data is in text format, searching and altering the data can be both quicker and quicker. This altered data may be correlated with video data if necessary. Without the text data, the above procedure will need less scrubbing through the video to achieve the desired stage. Furthermore, data stored in text format is much smaller than data stored in video format. Our project's implementation would contribute to the development of a smart traffic grid. The requisite data is then retrieved from each vehicle's photographs. The vehicle's license plate is first detected. The license plate after some pre-processing Video Surveillance is a very popular research topic in computer vision applications that continuously tries to detect and track down the targets.*

Keywords: Vehicle Number Plate Detection, Vehicle Speed Detection, etc.

REFERENCES

- [1] O. Smirg, Z. Smekal, M. K. Dutta, and B. Kakani, "Automatic detection of the direction and speed of moving objects in the video," in 2013 Sixth International Conference on Contemporary Computing (IC3), pp. 86–90, Aug 2013.
- [2] J. x. Wang, "Research of vehicle speed detection algorithm in video surveillance," in 2016 International Conference on Audio, Language and Image Processing (ICALIP), pp. 349 - 352, July 2016.
- [3] C. Pornpanomchai and K. Kongkittisan, "Vehicle speed detection system," in 2009 IEEE International Conference on Signal and Image Processing Applications, pp. 135–139, Nov 2009.
- [4] M. A. Alavianmehr, A. Zahmatkesh, and A. Sodagaran, "A new vehicle detect method based on gaussian mixture model along with estimate moment velocity using optical flow,"
- [5] I. Iszaidy, A. Alias, R. Ngadiran, R. B. Ahmad, M. I. Jais, and D. Shuhaizar, "Video size comparison for embedded vehicle speed detection travel time estimation system by using raspberry pi," in 2016 International Conference on Robotics, Automation and Sciences (ICORAS), pp. 1–4, Nov 2016
- [6] K. V. K. Kumar, P. Chandrakant, S. Kumar, and K. J. Kushal, "Vehicle speed detection using corner detection," in Proceedings of the 2014 Fifth International Conference on Signal and Image Processing, ICSIP '14, (Washington, DC, USA), pp. 253–258, IEEE Computer Society, 2014.
- [7] H.-Y. Lin, K.-J. Li, and C.-H. Chang, "Vehicle speed detection from a single motion blurred image," *Image and Vision Computing*, vol. 26, no. 10, pp. 1327–1337, 2008.
- [8] C. Stauffer and W. E. L. Grimson, "Adaptive background mixture models for real-time tracking," in *Computer Vision and Pattern Recognition*, 1999. IEEE Computer Society Conference on. vol. 2, pp. 246–252, IEEE, 1999.

- [9] A. Burton and J. Radford, Thinking in perspective: critical essays in the study of thought processes. Methuen, 1978.
- [10] D. H. Warren and E. R. Stelow, Electronic Spatial Sensing for the Blind: Contributions from Perception, Rehabilitation, and Computer Vision, vol. 99. Springer Science & Business Media, 2013.