

MONITORING ROAD TRAFFIC WITH IMAGE RECOGNITION

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ABSTRACT

Traffic jams is one of the daily problems that occur to road user. There are many reasons that traffic jams could be occur anywhere whether it comes from the driver itself or maybe there are construction or an accident happened. As a driver, we must plan our journey well to avoid being stuck in the traffic jams. Therefore, it is essential to develop an affordable system that would help the driver or even the PLUS highways stuff to recognize traffic condition at a certain location. The objective of this study is to develop an automated system to recognize traffic jams on Projek Lebuhraya Utara Selatan (PLUS) highway with image recognition and to evaluate the accuracy of image recognition on heavy traffic. In this technique, an algorithm called Convolutional Neural Network (CNN) was implemented. The beneficial of using CNN is that they can capture or able to learnt relevant features from an image at different levels similar to a human brain. They were two evaluation that have been done which effectiveness of image recognition and the accuracy of image recognition result which these two evaluations produce an accurate result that makes thirty respondents from road user agree with this project to be developed. For the future works, there are a few suggestions and recommendations that researcher received after doing the testing. The respond was added more location, added user manual and display the image result in the web. Overall, CNN does produce an accurate representation of traffic image.

Keywords: Projek Lebu Raya Utara Selatan (PLUS), Convolutional Neural Network (CNN), Traffic jams.