

An Abstract of Thesis

On

**Development of a Novel Awareness Model for Rapid
Object Detection in Vehicular Navigation**

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Abstract

Various numbers of strategies given by researchers are available for monitoring and controlling traffic of highways and roads. In India, people are habitual of breaking rules but if it comes to traffic rules, they don't hesitate to break. Due to increase of traffic and high speedy vehicles, the numbers of accidents are increasing day by day. It also shows the carelessness of the people. So, to reduce the number of accidents and number of deaths, there is a need of such kind of monitoring system who monitors the real time traffic as well as control the situation in an effective manner. Many Computer Vision and Object Detection methodologies are present to monitoring the traffic. But all strategies are with their limitations. The primary objective of this research work is to control the traffic by pointing out the speed of the vehicle and to monitor the real time situation of the traffic as well as to give the effective solution to tackle the situation. The PROPETHO is the proposed methodology to tackle this big problem in an effective manner. The method is observed and tested on real time scenarios.

At the present time, the large numbers of the automobiles on the highway and town roads have produced with many challenges regarding the proper management and control of the traffic. To manage and control the road traffic, the traffic surveillance system gives the several solutions by using the detection and tracking of vehicles techniques. A challenging task of feature extraction of moving object is represented by this approach. Therefore, the aim of this research is to present an efficient method for managing and controlling the traffic by using the object detection methods. The proposed method preserves the group of pixels in foreground which can be probable vehicles and discards the rest as noise. Therefore, it selectively rejects the objects which cannot be vehicles at the same time consolidate the candidate vehicles.

Here, PROPETHO system performs the following task of detection of vehicle followed by calculation of speed of the vehicle. The performance of the proposed

method is evaluated by comparing it with other standard methods qualitatively as well as quantitatively. For the performance analysis of the PROMETHO System, six scenarios were taken with parameters namely Recall and F-Measure. In all the cases, the value of F-Measure was approx .9 which is nearer to 1 in all the four cases that means predictive power of the classification procedure is good and the classification procedure is perfect.