World Academy of Science, Engineering and Technology
International Journal of Mechanical and Mechatronics Engineering
Vol:8, No:08, 2014

Enhanced Traffic Light Detection Method Using Geometry Information

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Abstract : In this paper, we propose a method that allows faster and more accurate detection of traffic lights by a vision sensor during driving, DGPS is used to obtain physical location of a traffic light, extract from the image information of the vision sensor only the traffic light area at this location and ascertain if the sign is in operation and determine its form. This method can solve the problem in existing research where low visibility at night or reflection under bright light makes it difficult to recognize the form of traffic light, thus making driving unstable. We compared our success rate of traffic light recognition in day and night road environments. Compared to previous researches, it showed similar performance during the day but 50% improvement at night.

Keywords : traffic light, intelligent vehicle, night, detection, DGPS
Conference Title : ICVAS 2014 : International Conference on Vehicle Autonomous Systems
Conference Location : Vancouver, Canada
Conference Dates : August 07-08, 2014