Abstract

Today, one of the largest areas of research and development in the automobile industry is road safety. Many deaths and injuries occur every year on public roads from accidents. However, the most dramatic fact is that, nearly all of the accidents are caused by driver mistakes. The main goal of the lane detection system is to reduce the number of these accidents. Remarkable amount of the current researches in this field focus on building autonomous driving systems. This research work presents an approach for improving the performance of lane detection algorithm by using different filtering techniques. This paper deals with an efficient ways of noise reduction in the images by using different filtering techniques. The main objective is to design, develop, implement and subsequently simulate an efficient lane detection algorithm which will provide high quality results in the case when noise is present in the signal. The scope of the dissertation is to implement lane detection algorithm without using any filter, to implement lane detection algorithm using median, wiener, and hybrid median filters. And to compare the performance on the basis of accuracy, specificity, BER, PSNR, without and with filters (Median, Wiener, Hybrid median filters). By giving some selected road images, experiments will be taken, that will be useful for performance comparison. A variety of tests will
be performed using improved algorithm to test various aspects of the road images. Comparisons will be drawn among proposes strategy with well-known existing algorithms.

References

lane detection for vehicular traffic"; NED University of Engineering and Technology.


**Index Terms**

Computer Science  
Image Processing

**Keywords**

Image filtering  
Lane detection  
Hough transformation  
canny edge detection