



An Overview of Lane Departure Warning System Based On DSP for Smart Vehicles

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Abstract— This paper represents the lane departure warning system of smart vehicles based on real time camera implemented in a dual core DSP embedded system to verify the functionality. This system can be applicable for highways, roadways etc .The digital signal processor on lane departure system works with operating frequency of 600 MHz. The presented edge detection algorithm is efficient and robust at day and night.

Sequences of images recorded with real time cameras mounted on moving vehicle gives information about the vehicle's environment to support the driver. Driver assistance system that monitors driver intent, warn drivers of lane departure, or assist in vehicle guidance are all being considered.

A DSP based lane departure system is equipped on the smart car, TAIWAN iTS, and has been successfully verified for hundreds of kilometres on Highway No.3 and Expressway No.68 in Taiwan. The developed system can reduce the complexity of vision data processing and meet the real time requirements.

Keywords— *CAN; CCD; DSP; Lane Departure Warning System*

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