



ON-BOARD LANE DETECTION SYSTEM FOR INTELLIGENT VEHICLE BASED ON MONO-CULAR VISION

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Abstract- The objective of this research is to develop a monocular vision system that can locate the positions of the road lane in real time. First, Canny approach is used to obtain edge map from the road image acquired from monocular camera mount on vehicle; Second, a matching process is conducted to normalize the candidates of road line; Third, a searching method is used for reinforce potential road lines while degraded those impossible ones; Forth, a linking condition is used to further enhance the confidence of the potential lane lines, and a K-means cluster algorithm is employed to localize the lane lines; Finally, a on board system is designed for experiment. The proposed system is shown to work well under various conditions on the roadway. Besides, the computation cost is inexpensive and the system's response is almost real time.

Index terms: Intelligent transportation system, machine vision, intelligent vehicle, traffic safety, driver assistant system.