عنوان مقاله:

Design an Intelligent Driver Assistance System Based On Traffic Sign Detection with Persian Context

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خلاصه مقاله:

In recent years due to improvements of technology within automobile industry, design process of advanced driver assistance systems for collision avoidance and traffic management has been investigated in both academics and industrial levels. Detection of traffic signs is an effective method to reach the mentioned aims. In this paper a new intelligent driver assistance system based on traffic sign detection with Persian context is designed. The main goal of this system is to assist drivers to choose their path based on traffic signs more precisely. To reach this purpose, a new framework by using of fuzzy logic was used for detection of traffic signs in videos which have has been captured from a vehicle path in highways. Fuzzy logic increases inference and intelligent capabilities in smart systems to make correct decision making in online conditions. Then, the combination of Maximally Stable Extermal Regions (MSER) and Canny Edge Detector Algorithms are used to detect road sign's texts detection. MSER algorithm is aimed at assists to detect regions in an image that differ in properties, for example in brightness or color, compared to surrounding regions. Also, canny edge detector uses a multi-stage algorithm to detect a wide range of edges in the images. Thereafter, morphological mask operator is used to join individual characters for final detection of texts in the traffic signs. Finally, MATLAB Optical Character Recognition (OCR) is employed to recognize the detected texts. This new framework gives an overall text detection and recognition rate of . .

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