SPEED LIMIT SIGN DETECTION AND RECOGNITION

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Abstract

In this paper, we propose a new method of speed-limit sign detection and recognition, which is based on the information of gray image. This method has a real-time processing ability to remind drivers about the speed limitation when they drive their vehicles in different road conditions. The method contains four main processing modules: speed-limit sign detection, speed-limit sign segmentation, speed-limit sign recognition and system integration. For detecting speed limit signs, Adaboost alogorithm and Circular Hough Transform (CHT) are used. For recognizing speed-limit signs, Support Vector Machine (SVM) is used which has a high recognition performance up to 97.02%? in our experiments. By integrating the four processing modules efficiently, a high efficient speed-limit sign detection and recognition system for gray image has been developed.

Keyword：Speed-limit road sign; Adaboost; Circular Hough Transform; Support vector machine(SVM);