

عنوان مقاله:

Design and implementation of a new algorithm for identifying moving objects around the car when leaving the park

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خلاصه مقاله:

In this paper, an intelligent system based on a novel algorithm for pulling out is designed and implemented. Through processing images of the surroundings of a vehicle, this very algorithm detects the obstacles and objects which are likely to pose danger to the vehicle while pulling out. Two different methods are integrated into this system to detect obstacles and objects. The first method, which is called Support Vector Machine (SVM), detects a broad range of moving objects around the vehicle drawing on training datasets. Whereas, in the second method, types of obstacles and objects are detected using the area of the moving object within range. The system in question is implemented using both methods whose performance are compared in terms of computation and image processing speed; SVM and object area methods detected ۹۳% and ۹۶% of vehicles respectively. The utilization of this algorithm can contribute to the safety of vehicles while executing pullout maneuver and decreased the probability of crashing into fixed and moving obstacles in the surroundings. Results of this research will be available to be used in the design and development of parking control systems.

کلمات کلیدی:

Intelligent vehicle Machine vision Obstacle detection

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