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Automatic Parking Systems Based on Parking Scene Recognition

Abstract:

Automatic parking technology can complete parking operations safely and quickly without a driver and can improve driving comfort, while greatly reducing the probability of parking accidents. Existing systems are less intelligent, low degree of automation, and scope is limited to traditional fuel vehicles. To increase the utilization of parking spaces and parking convenience, machine vision and pattern recognition techniques are introduced to intelligently recognize a vertical parking scenario, plan a reasonable parking path, develop a path tracking control strategy to improve the vehicle control automation, and explore a highly intelligent automatic parking technology roadmap. This paper discusses how Visual Sensors can be applied to auto-parking system and the key aspects of system solutions for an automatic parking system based on parking scene recognition, parking path planning, and path tracking and control.