Parking Lot Visual Processing and Management System

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Abstract

This thesis is concerned with the development of a vision-based parking lot management (VPLM) system.

In the proposed VPLM system at the entrance gate there is a TV camera capturing the vehicle's license plate. On the other hand, there is a TV camera looking downward form above. Every vehicle entering the parking space will be detected using a change detection technique. The detected vehicle in the tracked after it appears in the parking space using the predicted information derived form the previous image frames. Furthermore, some predefined parking lot functions will be identified.

Experiment results of the vehicle detection and tracking are shown. Then a complete process of the VPLM system is simulated with an image sequence of a real parking lot.