

Advanced Parking Slot Management System Using Machine Learning

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Abstract: *The continuous development of economy, personal vehicles have become an indispensable part of our daily lives. The commodity has become affordable to most working class providing comfortable way of life; however on the other hand multiple problems strike back which need to be solved. One problem is of parking spaces. A variety of sophisticated car parking systems are in use nowadays; however they all require a considerable design time, installation and maintenance cost. In many parking areas the management uses the counter at the checkpoint in order to track the number of vehicle that enter and exit the parking area. More sophisticated systems detect the exact location of the empty spaces and guide the incoming drivers accordingly. Some advanced vehicles have their own parking systems installed but still hard for the system itself to confirm whether a vacant parking area truly exists or not. Despite of all these systems, there are still places where parking facilities need to be set up on temporary or urgent bases; this application provides a cost effective, space based solution for such scenarios. It just need to mount cameras on the location to take video at regular intervals. This project focuses on developing a parking management system based on video processing to detect vacant parking slot in an area where automated systems are not installed. Camera images of the parking area are subjected to image processing algorithm which marks virtual slots in the area and extracts occupancy information to guide the incoming drivers about availability and position of vacant spaces.*

Keywords: Slot Management System

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