Development of Automated Gate Using Automatic License Plate Recognition System

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Abstract

This paper presents a prototype of automated gate powered by automatic license plate recognition system. The prototype is an embedded system running Raspbian operating system on Raspberry PI microcontroller. A USB camera, LCD display and a servo motor are attached to capture an image of a vehicle, to display information and to represent an automated gate respectively. OpenALPR library is used to perform the license plate recognition, while the complete automated gate system which performing image capturing, license plate recognition and authentication to gate operation is built using Node-RED software. As a result, the sys-tem successfully recognizes the vehicle number plate and categorize them. All in-formation about the vehicle are displayed on LCD and if the vehicle authorized, the gate operated accordingly. The analysis results show that the system able to achieve recognition rate of 87.50% to 90.90% on images with specified height & angle

Keywords: Image Processing, OpenALPR, License Plate Recognition System, Automated Gate System