A Study on Different Techniques in ALPR System: The Systems Performance Analysis

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Abstract License plate recognition and localization are crucial steps in most transportation applications. For instance, trace for stolen vehicles, speed or airport gate monitoring, road traffic monitoring and car parking control. This is required a system to extract automatically and recognize the character of the license plate from the image captured. The automatic license plate recognition (ALPR) system has aroused great interest in the research community, because in certain regions, cities or countries have certain limitations and lack of similarity between different license plates. The ALPR system includes three important components: first step is license plate localization, second step is character segmentation and third step is character recognition. This paper is to give comprehensive reviews of the localization and recognition techniques involved in the license plate recognition system and compares existing effective solutions.

Keywords License plate localization · Edge detection · OCR · Template matching · Deep learning · OpenALPR

1 Introduction

The city's traffic condition and the management of parking lots attract people's attention inevitably with the increasing number of vehicles. As one of the important features of vehicle, the vehicle license plate plays an important role and become the core of the intelligent transportation system.

In 1976, the Automated License Plate Recognition (ANPR) was invented at the Police Scientific Development Branch in the U.K. However, in the past ten years,

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