**Paper Title: Multinational License Plate Recognition Using Generalized Character Sequence Detection**

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**Overview**

This paper proposes a deep ALPR system that can be used to recognize license plates from multiple countries. The system is based on the You Only Look Once (YOLO) networks, and it consists of three main steps: LP detection, unified character recognition, and multinational LP layout detection.

**Motivation**

The purpose of this study is to develop a deep ALPR system that can be used to recognize license plates from multiple countries. The current ALPR systems are designed to work on license plates from specific countries and use country-specific information, which limits their practical applicability. This study aims to address this issue by developing a deep ALPR system that can be used to recognize license plates from multiple countries.

**Contribution**

The main contribution of this study is the development of a deep ALPR system that can be used to recognize license plates from multiple countries. The system is based on the YOLO networks, which are known for their high accuracy and speed.

**Methodology**

The proposed deep ALPR system consists of three main steps:

LP detection: The LP detection step uses the YOLOv3 network to detect license plates in images.

Unified character recognition: The unified character recognition step uses the YOLOv3-SPP network to recognize characters in license plates.

Multinational LP layout detection: The multinational LP layout detection step uses an image processing-based algorithm to extract the correct sequence of LP numbers from multinational LPs.

**Conclusion**

The proposed deep ALPR system was evaluated on LP datasets from five countries: South Korea, Taiwan, Greece, USA, and Croatia. The system achieved an average accuracy of 99.2% on these datasets.

**Limitations**

The proposed ALPR system has only been evaluated on a limited number of countries. It is possible that the system's performance would be lower on other countries' license plates.

The proposed multinational LP layout detection algorithm is based on image processing techniques. These techniques can be sensitive to noise and variations in lighting conditions, which could affect the system's performance in real-world conditions.

Future Work

Future research could focus on improving the system's performance on other countries' license plates and developing more robust multinational LP layout detection algorithms.

**Synthesis**

This paper presents a novel approach to multinational license plate recognition. The proposed deep ALPR system is accurate and efficient, and it has the potential to be used in a variety of applications.