

Automatic Number Plate Recognition System Based on Deep Learning

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Abstract : In the last few years, Automatic Number Plate Recognition (ANPR) systems have become widely used in the safety, the security, and the commercial aspects. Forethought, several methods and techniques are computing to achieve the better levels in terms of accuracy and real time execution. This paper proposed a computer vision algorithm of Number Plate Localization (NPL) and Characters Segmentation (CS). In addition, it proposed an improved method in Optical Character Recognition (OCR) based on Deep Learning (DL) techniques. In order to identify the number of detected plate after NPL and CS steps, the Convolutional Neural Network (CNN) algorithm is proposed. A DL model is developed using four convolution layers, two layers of Maxpooling, and six layers of fully connected. The model was trained by number image database on the Jetson TX2 NVIDIA target. The accuracy result has achieved 95.84%.

Keywords : ANPR, CS, CNN, deep learning, NPL

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