

Real-Time Detection of Vehicle License Plate using Improved Faster R-CNN

Real-time identification of vehicle license plate has become more practical within the last decade in many applications such as; storage and retrieval of vehicular inflow records, automatic toll collection, parking fee payment, traffic monitoring, tracking of moving vehicles, recovery of stolen vehicles etc. A lot of researches have been carried out on license plate detection being the most important aspect of license plate recognition. In this paper, we present an improved Faster Region-based Convolutional Neural Networks (R-CNN) algorithm for detecting and extracting vehicle license characters. The technique engaged in this research focused on improving the creation quality of region proposals of the original Faster R-CNN technique. The performance of the proposed technique was evaluated using Mean Average Precision (MAP) obtained from all the precision-recall (PR) curves that were computed during model training. We also tested the proposed technique with 1000 dataset of vehicle plates from Nigeria and an overall accuracy of 99% was achieved for vehicle license plates detection.

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