Road Sign Classification and Detection with CNN and RCNN [Recognition?]

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11.05.2021

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1 Introduction

A fundamental part of all road infrastructure is the traffic sign system. Any road intended for vehicular use is incomplete without the implementation of a traffic sign system. They are of critical importance to interpreting correct road usage, road regulations and route recommendations. Their presence is integral to the safe and functional road use.

Contemporary road signs follow strict design rules to optimise their clarity of intention. These rules allow them to be as easy as possible for human interpretation. However, humans are prone to distraction, misinterpretation and other general mistakes, which is why developing road sign classification (RSC[?]) algorithms is a huge part of the automation of driving. Standard computer vision methods are not versatile enough to deal with the plethora of different physical conditions on roads. This is why applying a deep learning approach to the problem is necessary - A well crafted AI can exceed even human vision in RSC[?].

In this project we propose an RSC[?] system by applying several neural network models and evaluating their performance. [talk about CNN, RCNN, YOLO, other models we'll use].

2 Related Work

With the advent of AI computing autonomous and assisted driving has been an area of extensive research. Road sign recognition (RSR) systems are integral to the field. The functional implementation of RSR systems depends on two related issues - Road sign detection (RSD) and road sign classification (RSC). RSD pertains to localising the relevant information from the data, and RSC to identifying the data with its correct labels. (**?**, 1)

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3.2 GNN

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References

R. F. Rachmadi, K. Uchimura, and Y. Komokata, "Japan road sign classification using cascade convolutional neural network," p. 10, Jan 01, 2016. [Online]. Available: https://explore.openaire.eu/search/publication?articleId=datacite$_{::203929aafebe8a9e65d676b893571658}$