

On-Road Text Detection Platform for Driver Assistance Systems

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Abstract : The automation of the text detection process can help the human in his driving task. Its application can be very useful to help drivers to have more information about their environment by facilitating the reading of road signs such as directional signs, events, stores, etc. In this paper, a system consisting of two stages has been proposed. In the first one, we used pseudo-Zernike moments to pinpoint areas of the image that may contain text. The architecture of this part is based on three main steps, region of interest (ROI) detection, text localization, and non-text region filtering. Then, in the second step, we present a convolutional neural network architecture (On-Road Text Detection Network - ORTDN) which is considered a classification phase. The results show that the proposed framework achieved ≈ 35 fps and an mAP of $\approx 90\%$, thus a low computational time with competitive accuracy.

Keywords : text detection, CNN, PZM, deep learning

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