AN IMPROVED DtBs METHOD FOR AUTOMATIC TRAFFIC SIGN RECOGNITION

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ABSTRACT: The maintenance of traffic signs ensures continuous provision of clear and definite information, navigation, and warnings to various road users such as vehicle drivers and pedestrians. It is thus an important issue for road traffic safety. An automatic recognition technique can provide road information in short time, making maintenance tasks more efficient. For this reason, efforts have been made in developing an automatic traffic sign recognition system using vehicle-borne images or videos. In this study, we developed an improved image-based traffic sign recognition approach based on the Distances to Boundary (DtBs) method. The proposed algorithm is capable of detecting and adjusting the in-plane and out-plane rotations of each candidate object. Consequently, this approach is translation-, scale-, and rotation-invariant. Based on preliminary the results from a real field experiment, it has been demonstrated that a significant improvement on the traffics sign detection result can be achieved after implementing the proposed approach.

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