

IEEE Transactions on Intelligent Transportation Systems

Special Issue Call for Papers

Machine Learning for Traffic Sign Recognition

Recognition of traffic signs is a challenging real-world problem relevant for intelligent transportation systems. It is a multi-category classification problem with unbalanced class frequencies. Traffic signs show a wide range of variations between classes in terms of color, shape, and the presence of pictograms or text. However, there exist subsets of classes (e.g., speed limit signs) that are very similar to each other. Further, the classifier has to cope with large variations in visual appearances due to illumination changes, partial occlusions, rotations, weather conditions etc.

Although first commercial systems have reached the market and several studies on sign recognition have been published, systematic comparisons of different approaches are scarce.

The special issue focuses on unbiased evaluation of new and existing methods from computer vision, machine learning, and related fields for traffic sign recognition. Empirical evaluation should be based on freely available benchmark data.

The special issue is organized in the context of the German Traffic Sign Recognition Benchmark (GTSRB), a competition at this year's IEEE International Joint Conference on Neural Networks (IJCNN 2011). The GTSRB data is freely available from <http://benchmark.ini.rub.de>, the final test data will be released in August.

Important dates

Manuscript submissions due: October 15 2011
Notification of acceptance: November 20 2011
Revised manuscripts due: December 15 2011
Publication: second issue 2012

Submission

Manuscripts should be submitted at <http://mc.manuscriptcentral.com/t-its> by selecting the manuscript type "Special Issue on MLF TSR".

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