Special Issue on Vision Applications and Technology for Intelligent Vehicles: Part II—Vehicles

This is the second part of a special issue on sensing technology in Intelligent Transportation Systems (ITS). The special issue contains revised papers originally presented at the 1999 IEEE/IEEJ/JSAT International Conference on Intelligent Transportation Systems. The first part (IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS, Vol. 1, No. 2, June 2000) presented papers focused on the infrastructure, including flow measurement for intelligent route guidance and event recognition for accident warning. This second part concentrates on sensing capabilities of vehicles.

Ma et al. describe a method to simultaneously detect lane and pavement boundaries using model-based sensor fusion. This technique is important for autonomous driving. Zhao and Thorpe as well as Curio et al. describe methods to recognize pedestrians. This is an important issue for the prevention of accidents involving pedestrians. This part of the special issue concludes with a paper by Broggi et al., who develop a method to detect obstacles and vehicles for platooning. We hope that you will enjoy this second and final part of the special issue.

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From 1994 to 1998, he was Full Researcher at the Dipartimento di Ingegneria dell’Informazione, Università di Parma. Since 1998, he has been Associate Professor of Artificial Intelligence at the Dipartimento di Informatica e Sistemistica, Università di Pavia, Pavia, Italy. His research interests include real-time computer vision approaches for the navigation of unmanned vehicles, and the development of low-cost computer systems to be used on autonomous agents. He is the coordinator of the ARGO Project, with the aim of designing, developing, and testing the ARGO autonomous prototype vehicle, equipped with special active safety features and enhanced driving capabilities. He is the author of more than 100 refereed publications in international journals, book chapters, and conference proceedings. Actively involved in the organization of scientific events, he is on the Editorial Board and Program Committee of many international journals and conferences and has been invited to act as Guest Editor of journals and magazines theme issues on topics related to intelligent vehicles, computer vision application, and computer architectures for real-time image processing.

Prof. Broggi is the Newsletter Editor and Member of the Conference and Publication Committees of the IEEE Intelligent Transportation Systems Council and is the Program Chair of the IEEE Intelligent Vehicles Symposium, Detroit, 2000.
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Dr. Ikeuchi received various research awards, including the David Marr Prize in computational vision in 1990 and the IEEE R&A K-S Fu Memorial Best Transactions Paper Award in 1998. In addition, in 1992, his paper, “Numerical Shape from Shading and Occluding Boundaries,” was selected as one of the most influential papers to have appeared in the Artificial Intelligence Journal within the past ten years.

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