Matt Barth

PRESIDENT'S MESSAGE

Transferring ITS Research to the Real World

The IEEE ITS Society has been on the forefront of disseminating Intelligent Transportation System research results with our conferences, most notably the Intelligent Vehicle Symposium (this year held in Dearborn, Michigan, see http://www.ieeeiv.net/) and the ITS Conference (this year held in Qingdao, China, see http://www.itsc2014.org/). In addition, our *IEEE Transactions on Intelligent Transportation Systems* has consistently had the highest impact factors of any journal in disseminating ITS research results.

But we need to remember that advancing research in ITS is only part of the story—there is often a large gap between conducting innovative research and then having it deployed in the real world. The researchers and the practitioners need to interact closely, otherwise the best ITS research may never come to fruition. To help bridge this gap, this *IEEE ITS Magazine* serves as an interdisciplinary forum for researchers, practitioners, application engineers, transportation agencies, government sponsors, and academia to share information on all aspects of intelligent transportation systems.

Sponsors of ITS research have a vested interest in making sure that their investment eventually leads to deployment. Government agencies don't fund ITS research just so that it ends up as a paper in our society's conferences or journal publications. It is critical that the best ITS research has a pathway to eventually becoming a reality.

A common pathway is exemplified with the recent connected vehicle research programs being carried out in the U.S., in Europe, and in Asia. Vehicles that can communicate with each other or with the infrastructure are "connected", allowing for a wide variety of innovative applications. These applications can focus on improving safety, mobility, environmental factors, or some combination of all three. Applications usually start as a general "concept" whose operation can then be carefully defined. These concepts (and their many variations) can then be modeled and evaluated using advanced analytical or computer simulation tools. These tools can be used to quantify particular benefits in safety, mobility or the environment. These research results often find their way into our transactions and conference papers—but the research shouldn't simply end there. If an application has the potential to be highly beneficial, costs and other deployment issues need to be considered. A small demonstration of the ITS technology or a prototype may be in order to see if the concept is viable in the real world. Next, pilot programs may be implemented at a larger scale and over a longer period of time to collect supporting data. The best pilot programs may even transition to a long term deployment, where different business models can support these new ITS applications.

Our IEEE ITS Society does a great job in dealing with the technical issues of ITS; however we need to consider many of the other non-technical issues if we are ever going

(continued on page 79)

Digital Object Identifier 10.1109/MITS.2014.2355079
Date of publication: 27 October 2014

To sum up, this book provides up to date information on the use of Digital Signal Processing (DSP) and Automatic Speech Recognition (ASR) for In-Vehicle applications, giving new ideas to engineers and scientists that work in this area. The chapters cover the results of research built on a solid base of more than forty years of DSP and ASR. The level of theory is sufficient for the reader who would like to study the chapters, while the examples efficiently bridge the gap between theory and practice. Besides, the book provides new direction of research as it addresses complicated systems applied in moving vehicles and a comprehensive set of references in related fields.

Advances for In-Vehicle and Mobile Systems: Challenges for International Standards covers a range of engineering problems for In-Vehicle and Mobile applications from a systems point of view, offering a guidebook that brings together approaches for making them intelligent and secure. It is appropriate for researchers, engineers, and professionals working in DSP technologies, next generation vehicle design as well as networks for mobile platforms.

Finally, the next paragraph summarizes some keywords for this book.

Keywords: Digital Signal Processing, In-Vehicle applications, Driver Recognition, Automatic Speech Processing, Driver Identification, Inter-Vehicle Networks, Embedded Platforms, Noise Control, De-noising Schemes, Noise Cancelation, Noise Reduction, Speech Enhancement, Speaker Identification, In-Vehicle Speech Corpus, Mobile Devices in Vehicles.

ITS

Reviewer: Christos-Nikolaos Anagnostopoulos

Christos-Nikolaos E. Anagnostopoulos was born in Athens, Greece in 1975. He received his Mechanical Engineering Diploma from the National Technical University of Athens (NTUA) in 1998, and the Ph.D. degree from the Electrical and Computer Engineering Dpt., NTUA in 2002.

Currently, he serves the University of the Aegean as Associate Professor in the Cultural Technology and Communication Department. He is a member of the Greek chamber of Engineers and member of IEEE. His research interests include image processing, computer vision, neural networks and intelligence transportation systems applications. He has published more than 120 papers in journals and conferences, in the above subjects as well as other related fields in informatics. He also serves as associate editor for the *IEEE Intelligent Transportation Systems Magazine.*

PRESIDENT'S MESSAGE *(continued from page 4)*

see great ITS research become commercially viable and are adopted by the transportation community. We need to consider open architectures and common standards to help accelerate ITS commercialization. We need to conduct more forums where researchers and practitioners not only discuss ITS technical details, but also issues associated with deployment costs, patents, intellectual property, and market incentives.

As our IEEE ITS Society continues to grow, much of our efforts should continue to publish great ITS research. But we can't forget that we need to also consider many of the other factors that are critical to ITS deployment.

Matt Barth
IEEE ITSS President, 2014–2015

ITS