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# Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications

17th Iberoamerican Congress, CIARP 2012  
Buenos Aires, Argentina, September 2012  
Proceedings

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## Volume Editors

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# Preface

These proceedings include the papers of all the oral presentations and posters accepted at the 17th edition of the Iberoamerican Congress on Pattern Recognition, held at Buenos Aires, Argentina, during September 3–6, 2012.

This congress is an opportunity for the exchange and diffusion of knowledge, as well as for the promotion of collaboration among different research groups from Latin America, Spain, Portugal and the rest of the world.

Like previous editions, this event attracted contributions from many countries. The papers presented here came from Argentina, Austria, Belgium, Brazil, Chile, Colombia, Costa Rica, Cuba, Czech Republic, Guadeloupe, India, Iran, Italy, Malaysia, Mexico, The Netherlands, New Zealand, Peru, Portugal, Russian Federation, Slovenia, Spain, Thailand, Tunisia, USA and Uruguay.

The papers contained in this volume were selected by the Program Committee, consisting of Luis Alvarez Leon, Luis Gomez Deniz, Julio Jacobo, and Marta Mejail. Each submitted paper was carefully reviewed by about three reviewers in a double-blind peer-review process.

Six distinguished invited speakers gave two tutorials and four keynotes. One of the tutorials addressed the subject of human activity recognition with 2D and 3D cameras and was given by Zicheng Liu, from Microsoft Research; the other tutorial treated the subject of Markov random fields with emphasis on restricted Boltzmann machines, and was given by Christian Igel from the University of Copenhagen.

A keynote on pattern recognition in transportation was presented by José Antonio Rodríguez-Serrano, Research Scientist at the Xerox Research Centre Europe (XRCE) Group. Another keynote on optimal anti-Bayesian statistical pattern recognition was given by John Oommen from the School of Computer Science at Carleton University, Ottawa (Canada). “Robot, pass me the scissors”! was a keynote that addressed the problem of robots assistance in surgery, it was presented by Juan P. Wachs from Purdue University. A keynote on multi-class support vector machines was presented by Christian Igel from the University of Copenhagen.

A keynote on smooth signed distance surface reconstruction and applications was presented by Gabriel Taubin from Brown University.

To enhance the importance of this congress, extended versions of selected papers will be included in the Special Issue on *Computer Vision Applying Pattern Recognition Techniques (Pattern Recognition)*, in the *Special Issue on Robust Recognition Methods for Multimodal Interaction (Pattern Recognition Letters)*, in the *Special Issue on Real-Time Image and Video Processing for Pattern Recognition Systems and Applications (Journal of Real-Time Image Processing)* and in the *IPOL Publications of Algorithms*.

We wish to thank all those who submitted papers for consideration and all the Program Committee members for their excellent work. We also want to thank our colleagues and sponsors for their assistance and support, who contributed to the success of this CIARP 2012 conference.

September 2012

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