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Vittorio Murino · Enrico Puppo (Eds.)

Image Analysis and Processing – ICIAP 2015

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Proceedings, Part II

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Preface

The 2015 International Conference on Image Analysis and Processing, ICIAP 2015, was the 18th edition of a series of conferences promoted biennially by the Italian Member Society (GIRPR) of the International Association for Pattern Recognition (IAPR). The conference traditionally covers both classic and the most recent trends in computer vision, pattern recognition, and image processing, addressing both theoretical and applicative aspects.

ICIAP 2015 (www.iciap2015.eu) was held in Genova, during September 7–11, 2015, in Palazzo della Borsa (the former Stock Exchange Building) conveniently located in the very center of the city, and was organized by the Pattern Analysis and Computer Vision (PAVIS) department (www.iit.it/pavis) of the Istituto Italiano di Tecnologia (IIT), with the valuable support of the University of Genova and University of Verona. Moreover, ICIAP 2015 was endorsed by the International Association for Pattern Recognition (IAPR), the Italian Member Society of IAPR (GIRPR), and the IEEE Computer Society Technical Committee on Pattern Analysis and Machine Intelligence (TCPAMI) and received the institutional support of Regione Liguria and Comune di Genova. Notable sponsorships came from several industrial partners such as Datalogic, Google, Centro Studi Gruppo Orizzonti Holding, Ansaldo Energia, EBIT Esaote, Softeco, eVS embedded Vision Systems, 3DFlow, Camelot Biomedical Systems, as well as Istituto Italiano di Tecnologia, University of Genova, and University of Verona.

ICIAP is traditionally a venue to discuss image processing and analysis, pattern recognition, computer vision, and machine learning, from both theoretical and applicative perspectives, promoting connections and synergies among senior scholars and students, universities, research institutes, and companies. ICIAP 2015 followed this trend, and the program was subdivided into seven main topics, covering a broad range of scientific areas, which were managed by two area chairs per each topic. They were: Video Analysis and Understanding, Multiview Geometry and 3D Computer Vision, Pattern Recognition and Machine Learning, Image Analysis, Detection and Recognition, Shape Analysis and Modeling, Multimedia, and Biomedical Applications.

Moreover, we hosted several prominent companies as well as start-ups to show their activities while assessing them with respect to the cutting-edge research in the respective areas: Datalogic, eVS embedded Vision Systems, 3DFlow, Camelot Biomedical Systems.

ICIAP 2015 received 234 paper submissions coming from all over the world, including Algeria, Brazil, Canada, China, Colombia, Czech Republic, Egypt, Finland, France, Germany, Italy, Japan, Korea, Lebanon, Morocco, New Zealand, Pakistan, Poland, Qatar, Romania, Russia, Saudi Arabia, Spain, Switzerland, Thailand, The Netherlands, Tunisia, Turkey, UK, USA and, Vietnam. The paper review process was managed by the program chairs with the invaluable support of 14 area chairs, together with the Program Committee and a number of additional reviewers. The peer-review selection process was carried out by three distinct reviewers in most of the cases. For

the accepted papers, authors were asked to include in the final version a list of the revisions carried out on the paper, underlining the changes made according to the reviewers' comments. This ultimately led to the selection of 129 high quality manuscripts, 27 orals, and 102 posters, with an overall acceptance rate of about 55 % (about 11 % for orals). The ICIAP 2015 proceedings are published as volumes of the *Lecture Notes in Computer Science* (LNCS) series by Springer.

The program also included six invited talks by distinguished scientists in computer vision pattern recognition and image analysis. We enjoyed the plenary lectures of Arnold Smeulders, University of Amsterdam (The Netherlands), Michal Irani, Weizmann Institute of Science (Israel), Bernt Schiele, Max Planck Institute for Informatics (Germany), Kristen Grauman, University of Texas at Austin (USA), Xiaogang Wang, The Chinese University of Hong Kong (China), and Samy Bengio, Google Inc. (USA), who addressed very interesting and recent research approaches and paradigms such as deep learning, big data, search and retrieval, semantic scene understanding, visual cognition, and image enhancement.

While the main conference was held during September 9–11, 2015, ICIAP 2015 also included several tutorials and workshops, held on Monday, September 7 and Tuesday, September 8, 2015, on a variety of topics.

The organized tutorials were: “Life Long Learning in Computer and Robot Vision” by Barbara Caputo (Italy), “Structure from Motion: Historical Overview and Recent Trends” by Andrea Fusiello (Italy), “Probing Human Brain Network Architecture and Dynamics Using MRI” by Maria Giulia Preti (Switzerland), and “Deep Learning in Computer Vision” by Xiaogang Wang (China).

ICIAP 2015 also hosted seven half- or full-day satellite workshops: “International Workshop on Recent Advances in Digital Security: Biometrics and Forensics (BIOFOR 2015),” organized by Modesto Castrilln Santana, Matthias Kirchner, Daniel Riccio, and Luisa Verdoliva; “Color in Texture and Material Recognition (CTMR 2015),” organized by Claudio Cusano, Paolo Napoletano, Raimondo Schettini, and Joost van de Weijer; “Medical Imaging in Rheumatology: Advanced Applications for the Analysis of Inflammation and Damage in the Rheumatoid Joint (RHEUMA 2015),” organized by Silvana Dellepiane, Marco A. Cimmino, Gianni Viano; “Image-Based Smart City Application (ISCA 2015) by Giuseppe Pirlo, Donato Impedovo, and Byron Leite Dantas Bezerra; “First International Workshop on Multimedia Assisted Dietary Management (MADiMa 2015), organized by Stavroula Mouggiakakou, Giovanni Maria Farinella, and Keiji Yanai; “Scene Background Modeling and Initialization (SBMI 2015),” organized by Lucia Maddalena and Thierry Bouwmans; “Workshop on Image and Video Processing for Quality of Multimedia Experience,” organized by Nicu Sebe, Ben Herbst, and Dubravko Culibrk. Also the workshop papers were all collected in a separate volume of the LNCS series by Springer.

We thank all the workshop organizers and tutorial speakers who made possible such an interesting pre-conference program.

Several awards were conferred during ICIAP 2015. Two student support grants were provided by the International Association for Pattern Recognition (IAPR). The “Eduardo Caianiello” award was attributed to the best paper authored or co-authored by at least one young researcher (PhD student, Post Doc, or similar); a Best Paper award was also assigned after a careful selection made by an *ad hoc* appointed committee.

Unfortunately, just a few months ago, Stefano Levialdi, an eminent scientist and one of the “founders” of the Italian Chapter of the IAPR, passed away. ICIAP 2015 commemorated this scientist, colleague, and friend dedicating the Best Paper award to his memory with the aim of celebrating his pioneering activities in the early stages of Image Analysis and Pattern Recognition in Italy.

The organization and the success of ICIAP 2015 were made possible thanks to the cooperation of many people. First of all, special thanks should be given to the area chairs, who made a big effort for the selection of the papers, together with all the members of the Program Committee. Second, we also would like to thank the industrial, special session, publicity, publication, and Asia and US liaison chairs, who, operating in their respective fields, made this event a successful forum of science. Special thanks go to the workshop and tutorial chairs, as well as all workshop organizers and tutorial lecturers for making richer the conference program with notable satellite events. ASAP S.r.l., the agency that supported the registration process and the financial aspects of the conference, among many other issues, should be acknowledged for all the work done. Last but not least, we are indebted to the Local Committee, mainly colleagues from IIT-PAVIS, who covered almost every aspects of the conference when necessary and the day-to-day management issues of the ICIAP 2015 organization, notably Sara, Diego, Matteo.

Thanks very much indeed to all the aforementioned people since without their support we would have not made it.

We hope that ICIAP 2015 will serve as a basis and inspiration for the future ICIAP editions.

September 2015

Vittorio Murino
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