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Computer Vision – ECCV 2012

Workshops and Demonstrations

Florence, Italy, October 7-13, 2012
Proceedings, Part I

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Foreword

The European Conference on Computer Vision is one of the top conferences for researchers in this field and is held biennially in alternation with the International Conference on Computer Vision. It was first held in 1990 in Antibes (France) with subsequent conferences in Santa Margherita Ligure (Italy) in 1992, Stockholm (Sweden) in 1994, Cambridge (UK) in 1996, Freiburg (Germany) in 1998, Dublin (Ireland) in 2000, Copenhagen (Denmark) in 2002, Prague (Czech Republic) in 2004, Graz (Austria) in 2006, Marseille (France) in 2008, and Heraklion (Greece) in 2010. To our great delight, the 12th conference was held in Florence, Italy.

ECCV has an established tradition of very high scientific quality and an overall duration of one week. ECCV 2012 began with a keynote lecture from the honorary chair, Tomaso Poggio. The main conference followed over four days with 40 orals, 368 posters, 22 demos, and 12 industrial exhibits. There were also 9 tutorials and 21 workshops held before and after the main event. For this event we introduced some novelties. These included innovations in the review policy, the publication of a conference booklet with all paper abstracts and the full video recording of oral presentations.

This conference is the result of a great deal of hard work by many people, who have been working enthusiastically since our first meetings in 2008. We are particularly grateful to the Program Chairs, who handled the review of about 1500 submissions and co-ordinated the efforts of over 50 area chairs and about 1000 reviewers (see details of the process in their preface to the proceedings). We are also indebted to all the other chairs who, with the support of our research teams (names listed below), diligently helped us manage all aspects of the main conference, tutorials, workshops, exhibits, demos, proceedings, and web presence. Finally we thank our generous sponsors and Consulta Umbria for handling the registration of delegates and all financial aspects associated with the conference.

We hope you enjoyed ECCV 2012. Benvenuti a Firenze!

October 2012

Roberto Cipolla
Carlo Colombo
Alberto Del Bimbo

Preface

Welcome to the Workshops and Demonstrations proceedings of the 12th European Conference on Computer Vision, held during October 7–13, 2012 in Florence, Italy. We are delighted that the main ECCV 2012 was accompanied by 21 workshops and 22 demonstrations.

We received 38 workshop proposals on diverse computer vision topics. The evaluation process was not easy because of the high quality of the submissions, and the final 21 selected workshops complemented the main conference program. They were mostly one-day workshops, with a few limited to half day, and one workshop lasting one day and a half. In the end, the addressed workshop topics constituted a good mix between novel current trends and traditional issues, without forgetting to address the fundamentals of the computational vision area.

On Sunday, October 7, three workshops took place: the 5th Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA), the First Workshop on Visual Analysis and Geo-Localization of Large-Scale Imagery, and the Workshop on Web-scale Vision and Social Media.

The majority of the workshops were held on Friday 12 and Saturday 13. On October 12 we had nine workshops: WebVision, the Workshop on Computer Vision for the Web, with only invited speakers, the traditional PASCAL Visual Object Classes Challenge 2012 (VOC2012) Workshop, the 4th International Workshop on Video Event Categorization, Tagging and Retrieval (VECTaR 2012), the First International Workshop on Re-Identification (Re-Id 2012), the Workshop on Biological and Computer Vision Interfaces, also with only invited speakers, VISART, "Where Computer Vision Meets Art" Workshop, the Second Workshop on Consumer Depth Cameras for Computer Vision (CDC4CV), the Workshop on Unsolved Problems in Optical Flow and Stereo Estimation, and the "What's in a Face?" Workshop.

On October 13, ten workshops were held: The remaining half day of the WebVision Workshop, the 4th Color and Photometry in Computer Vision Workshop, the Third Workshop on Computer Vision in Vehicle Technology: From Earth to Mars, the Second Workshop on Parts and Attributes, the Third IEEE International Workshop on Analysis and Retrieval of Tracked Events and Motion in Imagery Streams (ARTEMIS 2012), the First Workshop on Action Recognition and Pose Estimation in Still Images, the Workshop on Higher-Order Models and Global Constraints in Computer Vision, the Workshop on Information Fusion in Computer Vision for Concept Recognition, the QU3ST Workshop "2.5D Sensing Technologies in Motion: The Quest for 3D", and the Second International Workshop on Benchmarking Facial Image Analysis Technologies (BeFIT 2012).

We hope that participants enjoyed the workshops, together with the associated 179 papers included in these volumes.

Following the tradition of the major conferences in the field, ECCV 2012 was also proud to host live demonstrations given by companies and academic research groups. These were presented during the days of the main conference and are described in detail in the papers of the last volume.

Presenting a demo is one of the most concrete and exciting ways of demonstrating results of research and providing strong interaction between researchers, practitioners, and scholars in many topics, both theoretical and practical, of computer vision.

Among the proposed demos, submitted with a four-page summary together with slides, videos and rich supplementary material, after peer-review, we selected 22 demos on different subjects spanning topics such as biometry, content-based retrieval, classification and categorization, vision for computer graphics, 3D vision for interfaces, tracking and pose estimation, gesture analysis for human–computer interaction, text recognition, augmented reality, surveillance, and assisted driving.

Demos were presented by authors coming from different nations of Europe (Czech Republic, France, Germany, Italy, The Netherlands, Spain, Switzerland, and UK) and of the rest of the world (Australia, China, Japan, Taiwan, and USA).

The best demo was selected based on the scientific value and the technical presentation as well as the success in researcher interaction during the Demo Sessions.

We believe the scientific prototypes and the technical demonstrations presented at ECCV 2012 will contribute to strengthen the great success of computer vision technologies in industrial, entertainment, social, and everyday applications.

Finally, we would like to thank the individual chairs of each workshop (listed in the respective workshop programs) for soliciting and reviewing submissions, and the demo proposers, who made it possible to build such a rich supplementary program beside the main ECCV 2012 scientific plan.

October 2012

Andrea Fusiello
Vittorio Murino
Rita Cucchiara

Organization

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Workshops Organizers

5th Workshop on Non-Rigid Shape Analysis and Deformable Image Alignment (NORDIA)

Stefano Berretti	University of Florence, Italy
Alexander Bronstein	Tel Aviv University, Israel
Michael Bronstein	University of Lugano, Switzerland
Umberto Castellani	University of Verona, Italy

First Workshop on Visual Analysis and Geo-Localization of Large-Scale Imagery

Mubarak Shah	University of Central Florida, USA
Luc Van Gool	ETH Zurich, Switzerland
Asaad Hakeem	ObjectVideo, USA
Alexei Efros	Carnegie Mellon University, USA
Niels Haering	ObjectVideo, USA
James Hays	Brown University, USA
Hui Cheng	SRI International Sarnoff, USA

Workshop on Web-Scale Vision and Social Media

Lamberto Ballan	University of Florence, Italy
Alex C. Berg	Stony Brook University, USA
Marco Bertini	University of Florence, Italy
Cees G.M. Snoek	University of Amsterdam, The Netherlands

WebVision: The Workshop on Computer Vision for the Web

Manik Varma	Microsoft Research India
Samy Bengio	Google, USA

The PASCAL Visual Object Classes Challenge 2012 (VOC2012) Workshop

Chris Williams	University of Edinburgh, UK
John Winn	MSR Cambridge, UK
Luc Van Gool	ETH Zurich, Switzerland
Andrew Zisserman	University of Oxford, UK
Alex Berg	Stony Brook University, USA
Fei-Fei Li	University of Stanford, USA

4th International Workshop on Video Event Categorization, Tagging and Retrieval (VECTaR 2012)

Tieniu Tan	Chinese Academy of Sciences, China
Thomas S. Huang	University of Illinois at Urbana-Champaign, USA
Ling Shao	University of Sheffield, UK
Jianguo Zhang	University of Dundee, UK
Liang Wang	Chinese Academy of Sciences, China

First International Workshop on Re-Identification (Re-Id 2012)

Marco Cristani	University of Verona, Italy
Shaogang Gong	Queen Mary University London, UK
Yan Shuicheng	NUS, Singapore

Workshop on Biological and Computer Vision Interfaces

Olivier Faugeras	INRIA, France
Pierre Kornprobst	INRIA, France

VISART: "Where Computer Vision Meets Art" Workshop

João Paulo Costeira	IST Lisbon, Portugal
Gustavo Carneiro	University of Adelaide, Australia
Nuno Pinho da Silva	IST Lisbon, Portugal
Alessio Del Bue	Istituto Italiano di Tecnologia, Italy

Second Workshop on Consumer Depth Cameras for Computer Vision (CDC4CV)

Andrea Fossati	ETH Zurich, Switzerland
Jürgen Gall	Max-Planck-Institut für Informatik, Germany
Helmut Grabner	ETH Zurich, Switzerland
Xiaofeng Ren	Intel Labs, USA
Kurt Konolige	Industrial Perception, USA
Seungkyu Lee	Samsung, South Korea
Miles Hansard	Queen Mary University London, UK

Workshop on Unsolved Problems in Optical Flow and Stereo Estimation

Daniel Kondermann	University of Heidelberg, Germany
Bernd Jähne	University of Heidelberg, Germany
Daniel Scharstein	Middlebury College, USA

"What's in a Face?" Workshop

Arun Ross	West Virginia University, USA
Alice O'Toole	University of Texas, USA
Maja Pantic	Imperial College London, UK
Antitza Dantcheva	West Virginia University, USA
Stefanos Zafeiriou	Imperial College London, UK

4th Color and Photometry in Computer Vision Workshop

Theo Gevers	University of Amsterdam, The Netherlands
Raimondo Schettini	University of Milano Bicocca, Italy
Joost van de Weijer	Universitat Autònoma de Barcelona, Spain
Todd Zickler	Harvard University, USA
Javier Vazquez-Corral	Universitat Autònoma de Barcelona, Spain

Third Workshop on Computer Vision in Vehicle Technology: From Earth to Mars

Atsushi Imiya   IMIT, Japan
Antonio M. López   UAB/CVC, Spain

Second Workshop on Parts and Attributes

Christoph H. Lampert   IST, Austria
Rogerio S. Feris   IBM Research, USA

Third IEEE International Workshop on Analysis and Retrieval of Tracked Events and Motion in Imagery Streams (ARTEMIS 2012)

Anastasios Doulamis   TUC, Greece
Nikolaos D. Doulamis   NTUA, Greece
Jordi Gonzàlez   UAB/CVC, Spain
Thomas B. Moeslund   University of Aalborg, Denmark
Marco Bertini   University of Florence, Italy

First Workshop on Action Recognition and Pose Estimation in Still Images

Vittorio Ferrari   University of Edinburgh, UK
Ivan Laptev   INRIA/Ecole Normale Superieure, France
Josef Sivic   INRIA/Ecole Normale Superieure, France
Bangpeng Yao   Stanford University, USA

Workshop on Higher-Order Models and Global Constraints in Computer Vision

Karteek Alahari   INRIA-WILLOW/Ecole Normale Superieure, France
Dhruv Batra   TTI-Chicago, USA
Srikumar Ramalingam   MERL, USA
Nikos Paragios   Paristech, France
Rich Zemel   University of Toronto, Canada

Workshop on Information Fusion in Computer Vision for Concept Recognition

Jenny Benois-Pineau   LABRI, University of Bordeaux, France
Georges Quenot   LIG INPG, Grenoble, France
Tomas Piatrik   Queen Mary University London, UK
Bogdan Ionescu   LAPI, University Politehnica of Bucharest, Romania

QU3ST Workshop - 2.5D Sensing Technologies in Motion: The Quest for 3D

David Fofi   Université de Bourgogne, France
Adrien Bartoli   Université d'Auvergne, France

Second International Workshop on Benchmarking Facial Image Analysis Technologies (BeFIT 2012)

Hazim Kemal Ekenel   KIT, Germany/Istanbul Technical University, Turkey
Gang Hua   Stevens Institute of Technology/IBM Research, USA
Shiguang Shan   Chinese Academy of Sciences, China

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