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Computer Vision – ECCV 2012

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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 proceedings of the 2012 European Conference on Computer Vision in Florence, Italy! We received 1437 complete submissions, the largest number of submissions in the history of ECCV. Forty papers were selected for oral presentation and 368 papers for poster presentation, resulting in acceptance rates of 2.8% for oral, 25.6% for poster, and 28.4% in total.

The following is a brief description of the review process. After the submission deadline, each paper was assigned to one of 54 area chairs (28 from Europe, 21 from the USA and Canada, and 4 from Asia) with the help of the Toronto Paper Matching System (TMS). TMS, developed by Laurent Charlin and Richard Zemel, is beginning to be used by an increasing number of conferences, including NIPS, ICML, and CVPR. To ensure the best possible assignment of papers to area chairs, the program chairs manually selected several area chair candidates for each paper based on the suggestions generated by TMS. After automatic load balancing and conflict resolution, each AC was finally assigned approximately 30 papers closely matching their expertise.

Area chairs then made reviewer suggestions (an average of seven per paper), which were load-balanced and conflict-resolved, giving 3 reviewers for each paper and a maximum of 11 papers per reviewer. The ACs were assisted in this process by TMS, which was also used for automatically selecting potential reviewers, matching each submitted paper based on the reviewers' representative publications. These suggestions came from a pool of potential reviewers composed from names of people who have reviewed for recent vision conferences, self-nominations (any member of the community could fill out a form on the ECCV website asking to be a reviewer), and nominations by ACs. From an initial pool of 863 reviewers, 638 ended up reviewing at least one paper. This was the first time that TMS had been used this extensively in the review process for a vision conference (CVPR 2012 used a restricted version of the system for assigning papers to area chairs), and in the end, we were very pleased with its performance. An important improvement over previous conferences was that initial reviewer suggestions were generated entirely in parallel by the ACs, without the "race" for good reviewers that the previous methods have implicitly encouraged. Area chairs were then given the opportunity to correct infelicities in the load balancing before the final list was generated. We extend our heartfelt thanks to the area chairs, who participated vigorously in this process, to maximize the quality of the review assignments.

For the decision process, we introduced one major innovation. We replaced the physical area chair meeting and the conventional AC buddy system with virtual meetings of AC triplets (this system was first tried out for BMVC 2011 and found to work very well). After the conclusion of the review, rebuttal, and discussion periods, the AC triplets met on the phone or on Skype (and, in just one case,

in person), jointly discussed all their papers, and made acceptance/rejection decisions. Thus, the reviews and consolidation reports for each paper were carefully examined by three ACs, ensuring a fair and thorough assessment. A program chair assisted in each AC triplet meeting to maintain the consistency in the decision process and to provide any necessary support. Furthermore, each triplet recommended a small number of top-ranked papers (typically one to three) for oral presentation, and the program chairs took these candidates and made the final oral vs. poster decisions.

Double-blind reviewing policies were strictly maintained throughout the entire process – neither the area chairs nor the reviewers knew the identity of the authors, and the authors did not know the identity of the reviewers and ACs. Based on feedback from authors, reviewers, and area chairs, we believe we successfully maintained the integrity of the paper selection process, and we are very excited about the quality of the resulting program.

We wish to thank everyone involved for their time and dedication to making the ECCV 2012 program possible. The success of ECCV 2012 entirely relied on the time and effort invested by the authors into producing high-quality research, on the care taken by the reviewers in writing thorough and professional reviews, and on the commitment by the area chairs to reconciling the reviews and writing detailed and precise consolidation reports. We also wish to thank the general chairs, Roberto Cipolla, Carlo Colombo, and Alberto Del Bimbo, and the other organizing committee members for their top-notch handling of the event.

Finally, we would like to commemorate Mark Everingham, whose untimely death has shocked and saddened the entire vision community. Mark was an area chair for ECCV and also an organizer for one of the workshops; his hard work and dedication were absolutely essential in enabling us to put together a high-quality conference program. We salute his record of exemplary service and intellectual contributions to the discipline of computer vision. Mark, you will be missed!

October 2012

Andrew Fitzgibbon
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