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Bodo Rosenhahn · Bjoern Andres (Eds.)

# Pattern Recognition

38th German Conference, GCPR 2016  
Hannover, Germany, September 12–15, 2016  
Proceedings

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## Preface

It was a pleasure to organize the 38th German Conference on Pattern Recognition (GCPR) in Hannover during September 12–15, 2016.

This year's call for papers resulted in 84 submissions from institutions of 21 countries. Each paper underwent a rigorous double-blind reviewing procedure by at least three Program Committee (PC) members, sometimes with support from additional experts. Afterwards, one of the involved PC members served as moderator for a discussion among the reviewers and prepared a consolidation report that was also forwarded to the authors in addition to the reviewers. The final decision was made during a PC meeting held in Hanover based on all reviews, discussions, and, if necessary, additional reviewing. As a result of this rigorous reviewing procedure, 36 of the 84 submissions were accepted, which corresponds to an acceptance rate of 43 %. Finally, from these accepted papers the organizers chose 20 for oral presentation in a single-track program and 16 for poster presentation. In accordance with the conference tradition, we organized a Young Researchers Forum to promote scientific interaction between outstanding young researchers and our community. The work of 5 selected students was presented at the conference and included in these proceedings. The accepted papers cover the entire spectrum of pattern recognition, machine learning, image processing, and computer vision. We thank all authors for their submissions to GCPR 2016 and all reviewers for their valuable assessment.

In addition to the presentations from the technical program we were also happy to welcome three internationally renowned researchers as our invited speakers to give a keynote lecture at GCPR 2016: Patrick Perez (Technicolor France), Thomas Wiegand (HHI Berlin, Germany), and David Fleet (University of Toronto, Canada). The technical program was complemented by a workshop on New Challenges in Neural Computation and by two tutorials: one on *Embeddings and Metric Learning* and the other on *CNNs*.

The success of GCPR 2016 would not have been possible without the support of many institutions and people. We would like to thank MVTec Software GmbH, Viscom Vision Technology, Robert Bosch GmbH, and DAGM (Deutsche Arbeitsgemeinschaft für Mustererkennung e.V.) for their sponsorship. Special thanks goes to the members of the Technical Support and the Local Organizing Committees. Finally, we are grateful to Springer for giving us the opportunity of continuing to publish GCPR proceedings in the LNCS series.

This year's conference city, Hannover, was founded in 1150 and was once the family seat of the Hanoverian Kings of Great Britain. Since then it has evolved into one of the 15 largest cities in Germany with 523 642 inhabitants. The Hannover Fair is the largest in the world, due to numerous extensions especially for the Expo 2000. The Hanover Fair and the CeBIT are counted among the most important fairs in Hannover. The city is of national importance because of its universities and medical school, its

international airport, and its large zoo. With its many parks and its large municipal woods, Hannover is the second most green city in Europe. It was an honor to host the GCPR this year and to witness animated scientific discussions.

July 2016

Bodo Rosenhahn  
Bjoern Andres

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# Awards 2015

## German Pattern Recognition Award

The *Deutscher Mustererkennungspreis 2015* was awarded to Stefanie Jegelke for her outstanding work on *Submodular Functions in Machine Learning and Computer Vision*.

## DAGM MVTec Award

The DAGM MVTec Award 2015 was received by Marcus Rohrbach for his dissertation *Combining Visual Recognition and Computational Linguistics*.

## GCPR Awards 2015

The GCPR Best Paper 2015 was awarded to

Andreas Geiger and Chaohui Wang

*Joint 3D Object and Layout Inference from a Single RGB-D Image*

GCPR 2015 Honorable Mention:

Johannes L. Schönberger, Alexander C. Berg, and Jan-Michael Frahm

*Efficient Two-View Geometry Classification*

Anna Rohrbach, Marcus Rohrbach, and Bernt Schiele

*The Long-Short Story of Movie Description*

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