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Pattern Recognition

32nd DAGM Symposium
Darmstadt, Germany, September 22-24, 2010
Proceedings

Volume Editors

Michael Goesele
Stefan Roth
TU Darmstadt, Dept. of Computer Science
Fraunhoferstr. 5, 64283 Darmstadt, Germany
E-mail: {sroth,goesele}@cs.tu-darmstadt.de

Arjan Kuijper
Fraunhofer Institute for Computer Graphics Research (IGD)
Fraunhoferstr. 5, 64283 Darmstadt, Germany
E-mail: arjan.kuijper@igd.fraunhofer.de

Bernt Schiele
MPI Informatik
Campus E1 4, 66123 Saarbrücken, Germany
schiele@mpi-inf.mpg.de

Konrad Schindler
ETH Zurich
Photogrammetry and Remote Sensing
Wolfgang-Pauli-Str. 15, 8093 Zurich, Switzerland
E-mail: schindler@geod.baug.ethz.ch

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Preface

On behalf of the organizing committee, we would like to welcome you to Darmstadt and DAGM 2010, the 32nd Annual Symposium of the German Association for Pattern Recognition.

The technical program covered all aspects of pattern recognition and, to name only a few areas, ranged from 3D reconstruction, to object recognition and medical applications. The result is reflected in these proceedings, which contain the papers presented at DAGM 2010. Our call for papers resulted in 134 submissions from institutions in 21 countries. Each paper underwent a rigorous reviewing process and was assigned to at least three program committee members for review. The reviewing phase was followed by a discussion phase among the respective program committee members in order to suggest papers for acceptance. The final decision was taken during a program committee meeting held in Darmstadt based on all reviews, the discussion results and, if necessary, additional reviewing. Based on this rigorous process we selected a total of 57 papers, corresponding to an acceptance rate of below 45%. Out of all accepted papers, 24 were chosen for oral and 33 for poster presentation. All accepted papers have been published in these proceedings and given the same number of pages. We would like to thank all members of the program committee as well as the external reviewers for their valuable and highly appreciated contribution to the community. We would also like to extend our thanks to all authors of submitted papers; without their contribution we would not have been able to assemble such a strong program.

The technical program was complemented by a workshop on “Pattern Recognition for IT Security”, which was organized by Stefan Katzenbeisser, Jana Dittmann and Claus Vielhauer, as well as by four tutorials given by renowned experts:

- “Sparse Linear Models: Reconstruction and Approximate Bayesian Inference” by Matthias Seeger
- “Computer Vision on GPUs” by Jan-Michael Frahm and P.J. Narayanan
- “Color in Image and Video Processing” by Joost van de Weijer
- “MAP Inference in Discrete Models” by Carsten Rother

In addition to the presentations from the technical program, we were also proud to have had three internationally renowned invited speakers at the conference:

- Richard Szeliski (Microsoft Research Redmond)
- Yair Weiss (The Hebrew University of Jerusalem)
- Andrew Zisserman (University of Oxford)

Due to its success at DAGM 2009 in Jena, we again organized the Young Researchers’ Forum at DAGM 2010 to promote scientific interaction between excellent young researchers and our community. This year the contributions of six

students were accepted, who presented their Bachelor or Master thesis work during the conference and interacted with our community. Their participation was kindly supported by Daimler.

We would like to extend our sincere thanks to everyone who helped with making DAGM 2010 in Darmstadt a success. We are indebted to Ursula Päckel, Suzana Alpsancar and Carola Eichel for their help with all organizational matters, to Silke Romero and Nils Balke for web support and technical assistance, to Sebastian Koch and Fabian Langguth for assembling the proceedings and creating the registration system, our students and PhD students for many miscellaneous things along the way, to Fraunhofer IGD for providing the rooms for the PC meeting, workshop as well as the tutorials free of charge, and to Microsoft for offering the CMT conference management system for free.

We would also like to sincerely thank all our sponsors for their financial support, which helped to keep the registration fees as low as possible, especially those of the student attendees. In particular, we would like to thank our Platinum sponsor Daimler, our Gold sponsors Bosch and MVTec Software GmbH, our Silver sponsors ISRA Vision and Toyota, as well as our Bronze sponsor Microsoft Research. We appreciate their donations to our community, which values and recognizes the importance of these contributions to our field.

We were happy to host the 32nd Annual Symposium of the German Association for Pattern Recognition in Darmstadt and look forward to DAGM 2011 in Frankfurt.

September 2010

Michael Goesele
Stefan Roth
Arjan Kuijper
Bernt Schiele
Konrad Schindler

Laudatio for Gerald Sommer, Chairman of DAGM 2006–2009

Dear members of the German Pattern Recognition Society (DAGM),

The Darmstadt symposium on Pattern Recognition is the first meeting of our society after Gerald Sommer's chairmanship. It is my pleasure to thank my predecessor Gerald Sommer for his service to our society during the last three years as chairman and before that as vice chairman and as head of the technical committee. He has fostered a climate of openness for new pattern recognition challenges beyond our core scientific interests in computer and robot vision; for example, machine learning has found a natural home in our society. His emphasis on mathematical rigor and his insistence that pattern recognition has to solve relevant problems will guide us beyond his tenure as DAGM chairman. Together with my colleagues on the DAGM board I hope that we can rely on his advice in the future and we wish him all the best for the years to come.

Joachim M. Buhmann
Chairman DAGM e.V.

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Prizes 2009

Olympus Prize

The Olympus-Award 2009 was given to

Carsten Rother

for his outstanding work in the field of image segmentation using statistical methods, and his ability to transfer scientific results into real-life products.

DAGM Prizes

The main prize for 2009 was awarded to

Bastian Goldlücke and Daniel Cremers: A Superresolution Framework for High-Accuracy Multiview Reconstruction

Pascal Paysan, Marcel Lüthi, Thomas Albrecht, Anita Lerch, Brian Amberg, Francesco Santini and Thomas Vetter: Face Reconstruction from Skull Shapes and Physical Attributes

Further DAGM prizes for 2009 were awarded to

Martin R. Oswald, Eno Töppe, Kalin Kolev and Daniel Cremers: Non-parametric Single View Reconstruction of Curved Objects Using Convex Optimization

Christian Walder, Martin Breidt, Heinrich H. Bühlhoff, Bernhard Schölkopf and Cristobal Curio: Markerless 3D Face Tracking

The DAGM Young Researchers' Prize was awarded to

Falko Kellner, Christian-Albrechts-Universität Kiel: Environment Modelling and Object Segmentation Using an Actively Steered Time-of-Flight Camera

DAGM Young Researchers' Forum 2010

The following contributions were accepted into the DAGM Young Researchers' Forum 2010

Angela Eigenstetter, TU Darmstadt:

Multi-Cue Pedestrian Classification with Partial Occlusion Handling

Martin Hofmann, University of Illinois:

Dense Spatio-temporal Motion Segmentation for Tracking Multiple Self-occluding People

Tim Pattinson, Stuttgart University:

Quantification and Description of Distance Measurement Errors of a Time-of-Flight Camera

Jens Rannacher, Heidelberg University:

Realtime 3D Motion Estimation on Graphics Hardware

Marcus Rohrbach, TU Darmstadt:

Visual Knowledge Transfer Using Semantic Relatedness

Robert Wulff, Christian-Albrechts-Universität Kiel:

Image-Based 3D Documentation in Archeology

Table of Contents

Geometry and Calibration

3D Reconstruction Using an n -Layer Heightmap	1
<i>David Gallup, Marc Pollefeys, and Jan-Michael Frahm</i>	
Real-Time Dense Geometry from a Handheld Camera	11
<i>Jan Stühmer, Stefan Gumhold, and Daniel Cremers</i>	
From Single Cameras to the Camera Network: An Auto-Calibration Framework for Surveillance	21
<i>Cristina Picus, Branislav Micusik, and Roman Pflugfelder</i>	
Active Self-calibration of Multi-camera Systems	31
<i>Marcel Brückner and Joachim Denzler</i>	

Poster Session I

Optimization on Shape Curves with Application to Specular Stereo	41
<i>Jonathan Balzer, Sebastian Höfer, Stefan Werling, and Jürgen Beyerer</i>	
Unsupervised Facade Segmentation Using Repetitive Patterns	51
<i>Andreas Wendel, Michael Donoser, and Horst Bischof</i>	
Image Segmentation with a Statistical Appearance Model and a Generic Mumford-Shah Inspired Outside Model	61
<i>Thomas Albrecht and Thomas Vetter</i>	
Estimating Force Fields of Living Cells – Comparison of Several Regularization Schemes Combined with Automatic Parameter Choice . . .	71
<i>Sebastian Houben, Norbert Kirchgeßner, and Rudolf Merkel</i>	
Classification of Microorganisms via Raman Spectroscopy Using Gaussian Processes	81
<i>Michael Kemmler, Joachim Denzler, Petra Rösch, and Jürgen Popp</i>	
Robust Identification of Locally Planar Objects Represented by 2D Point Clouds under Affine Distortions	91
<i>Dominic Mai, Thorsten Schmidt, and Hans Burkhardt</i>	
Model-Based Recognition of Domino Tiles Using TGraphs	101
<i>Stefan Wirtz, Marcel Häselich, and Dietrich Paulus</i>	

Slicing the View: Occlusion-Aware View-Based Robot Navigation	111
<i>David Dederscheck, Martin Zahn, Holger Friedrich, and Rudolf Mester</i>	
A Contour Matching Algorithm to Reconstruct Ruptured Documents . . .	121
<i>Anke Stieber, Jan Schneider, Bertram Nickolay, and Jörg Krüger</i>	
Local Structure Analysis by Isotropic Hilbert Transforms	131
<i>Lennart Wietzke, Oliver Fleischmann, Anne Sedlazeck, and Gerald Sommer</i>	
Complex Motion Models for Simple Optical Flow Estimation	141
<i>Claudia Nieuwenhuis, Daniel Kondermann, and Christoph S. Garbe</i>	
Tracking People in Broadcast Sports	151
<i>Angela Yao, Dominique Uebersax, Juergen Gall, and Luc Van Gool</i>	
A Template-Based Approach for Real-Time Speed-Limit-Sign Recognition on an Embedded System Using GPU Computing	162
<i>Pınar Muyan-Özçelik, Vladimir Glavtchev, Jeffrey M. Ota, and John D. Owens</i>	
Inpainting in Multi-image Stereo	172
<i>Arnav V. Bhavsar and Ambasamudram N. Rajagopalan</i>	
Analysis of Length and Orientation of Microtubules in Wide-Field Fluorescence Microscopy	182
<i>Gerlind Herberich, Anca Ivanescu, Ivonne Gamper, Antonio Sechi, and Til Aach</i>	
Learning Non-stationary System Dynamics Online Using Gaussian Processes	192
<i>Axel Rottmann and Wolfram Burgard</i>	
Computational TMA Analysis and Cell Nucleus Classification of Renal Cell Carcinoma	202
<i>Peter J. Schüffler, Thomas J. Fuchs, Cheng Soon Ong, Volker Roth, and Joachim M. Buhmann</i>	
Recognition	
Efficient Object Detection Using Orthogonal NMF Descriptor Hierarchies	212
<i>Thomas Mauthner, Stefan Kluckner, Peter M. Roth, and Horst Bischof</i>	
VF-SIFT: Very Fast SIFT Feature Matching	222
<i>Faraj Alhwarin, Danijela Ristić-Durrant, and Axel Gräser</i>	

One-Shot Learning of Object Categories Using Dependent Gaussian Processes	232
<i>Erik Rodner and Joachim Denzler</i>	

Learning and Optimization

Uncertainty Driven Multi-scale Optimization	242
<i>Pushmeet Kohli, Victor Lempitsky, and Carsten Rother</i>	
The Group-Lasso: $\ell_{1,\infty}$ Regularization versus $\ell_{1,2}$ Regularization	252
<i>Julia E. Vogt and Volker Roth</i>	
Random Fourier Approximations for Skewed Multiplicative Histogram Kernels	262
<i>Fuxin Li, Catalin Ionescu, and Cristian Sminchisescu</i>	
Gaussian Mixture Modeling with Gaussian Process Latent Variable Models	272
<i>Hannes Nickisch and Carl Edward Rasmussen</i>	

Applications

Classification of Swimming Microorganisms Motion Patterns in 4D Digital In-Line Holography Data	283
<i>Laura Leal-Taixé, Matthias Heydt, Sebastian Weiße, Axel Rosenhahn, and Bodo Rosenhahn</i>	
Catheter Tracking: Filter-Based vs. Learning-Based	293
<i>Alexander Brost, Andreas Wimmer, Rui Liao, Joachim Hornegger, and Norbert Strobel</i>	
Exploiting Redundancy for Aerial Image Fusion Using Convex Optimization	303
<i>Stefan Kluckner, Thomas Pock, and Horst Bischof</i>	

Poster Session II

A Convex Approach for Variational Super-Resolution	313
<i>Markus Unger, Thomas Pock, Manuel Werlberger, and Horst Bischof</i>	
Incremental Learning in the Energy Minimisation Framework for Interactive Segmentation	323
<i>Denis Kirmizigül and Dmitriy Schlesinger</i>	
A Model-Based Approach to the Segmentation of Nasal Cavity and Paranasal Sinus Boundaries	333
<i>Carsten Last, Simon Winkelbach, Friedrich M. Wahl, Klaus W.G. Eichhorn, and Friedrich Bootz</i>	

Wavelet-Based Inpainting for Object Removal from Image Series	343
<i>Sebastian Vetter, Marcin Grzegorzec, and Dietrich Paulus</i>	
An Empirical Comparison of Inference Algorithms for Graphical Models with Higher Order Factors Using OpenGM	353
<i>Björn Andres, Jörg H. Kappes, Ullrich Köthe, Christoph Schnörr, and Fred A. Hamprecht</i>	
N-View Human Silhouette Segmentation in Cluttered, Partially Changing Environments	363
<i>Tobias Feldmann, Björn Scheuermann, Bodo Rosenhahn, and Annika Wörner</i>	
Nugget-Cut: A Segmentation Scheme for Spherically- and Elliptically-Shaped 3D Objects	373
<i>Jan Egger, Miriam H.A. Bauer, Daniela Kuhnt, Barbara Carl, Christoph Kappus, Bernd Freisleben, and Christopher Nimsky</i>	
Benchmarking Stereo Data (Not the Matching Algorithms)	383
<i>Ralf Haeusler and Reinhard Klette</i>	
Robust Open-Set Face Recognition for Small-Scale Convenience Applications	393
<i>Hua Gao, Hazım Kemal Ekenel, and Rainer Stiefelwagen</i>	
Belief Propagation for Improved Color Assessment in Structured Light	403
<i>Christoph Schmalz and Elli Angelopoulou</i>	
3D Object Detection Using a Fast Voxel-Wise Local Spherical Fourier Tensor Transformation	412
<i>Henrik Skibbe, Marco Reisert, Thorsten Schmidt, Klaus Palme, Olaf Ronneberger, and Hans Burkhardt</i>	
Matte Super-Resolution for Compositing	422
<i>Sahana M. Prabhu and Ambasamudram N. Rajagopalan</i>	
An Improved Histogram of Edge Local Orientations for Sketch-Based Image Retrieval	432
<i>Jose M. Saavedra and Benjamin Bustos</i>	
A Novel Curvature Estimator for Digital Curves and Images	442
<i>Oliver Fleischmann, Lennart Wietzke, and Gerald Sommer</i>	
Local Regression Based Statistical Model Fitting	452
<i>Matthias Amberg, Marcel Lüthi, and Thomas Vetter</i>	

Semi-Supervised Learning of Edge Filters for Volumetric Image Segmentation	462
<i>Margret Keuper, Robert Bensch, Karsten Voigt, Alexander Dovzhenko, Klaus Palme, Hans Burkhardt, and Olaf Ronneberger</i>	

Motion

Geometrically Constrained Level Set Tracking for Automotive Applications	472
<i>Esther Horbert, Dennis Mitzel, and Bastian Leibe</i>	
Interactive Motion Segmentation	483
<i>Claudia Nieuwenhuis, Benjamin Berkels, Martin Rumpf, and Daniel Cremers</i>	
On-line Multi-view Forests for Tracking	493
<i>Christian Leistner, Martin Godec, Amir Saffari, and Horst Bischof</i>	

Low-Level Vision and Features

Probabilistic Multi-class Scene Flow Segmentation for Traffic Scenes	503
<i>Alexander Barth, Jan Siegemund, Annemarie Meißner, Uwe Franke, and Wolfgang Förstner</i>	
A Stochastic Evaluation of the Contour Strength	513
<i>Fernand Meyer and Jean Stawiaski</i>	
Incremental Computation of Feature Hierarchies	523
<i>Michael Felsberg</i>	
From Box Filtering to Fast Explicit Diffusion	533
<i>Sven Grewenig, Joachim Weickert, and Andrés Bruhn</i>	

Surfaces and Materials

High-Resolution Object Deformation Reconstruction with Active Range Camera	543
<i>Andreas Jordt, Ingo Schiller, Johannes Bruenger, and Reinhard Koch</i>	
Selection of an Optimal Polyhedral Surface Model Using the Minimum Description Length Principle	553
<i>Tilman Wekel and Olaf Hellwich</i>	
Learning of Optimal Illumination for Material Classification	563
<i>Markus Jehle, Christoph Sommer, and Bernd Jähne</i>	

Author Index	573
-------------------------------	-----