Frank R. Schmidt

University of Western Ontario
Middlesex College
London, Ontario
Canada, N6A 5B7

Postdoctoral Fellow (Computer Science)
(519) 661-2111 x86792
http://www.csd.uwo.ca/∼schmidtf
schmidtf@csd.uwo.ca

Education

2010 Dr. rer. nat. (∼ PhD in Computer Science)
University of Bonn, Germany
Topic: *Computer Vision*
Title: *Efficient Methods for Continuous and Discrete Shape Analysis*
Advisor: *Daniel Cremers*
Committee: *Daniel Cremers, Michael Clausen, Reinhard Klein, Martin Rumpf*
Grade[1]: *Magna Cum Laude* (Average Grade: 0.5)

2003 Dipl.-Math (∼ Master in Mathematics)
University of Bonn, Germany
Topic: *Differential Geometry*
Title: *Beispiele hyperelliptischer Flächen mit mindestens zwei guten Hosen*
Advisor: *Ursula Hamenstädt*
Grade[1]: *sehr gut* (Average Grade: 1.4)

2000 Vordiplom Mathematik (∼ Bachelor in Mathematics)
University of Bonn, Germany
Grade[1]: *sehr gut* (Average Grade: 1.5)

Employment

April 2010 – today *Postdoctoral Fellow*
University of Western Ontario, Canada with Prof. Yuri Boykov

January 2006 – March 2010 *Research and Teaching Assistant*
University of Bonn, Germany with Prof. Daniel Cremers

July 2004 – December 2005 *Research and Teaching Assistant*
University of Bonn, Germany with Prof. Michael Clausen

January 2000 – June 2003 *Teaching Assistant*
University of Bonn, Germany at the Department of Mathematics

Awards

2009 CVPR Doctoral Spotlight Award
Conference: *IEEE Conference on Computer Vision and Pattern Recognition*
Awarded by: *Google Inc.*

[1] The German educational system has five different marks: *sehr gut* (very good) is 1.0, *gut* (good) is 2.0, *befriedigend* (satisfactory) is 3.0, *ausreichend* (requirements fulfilled) is 4.0 and *nicht ausreichend* (requirements not fulfilled) is 5.0. For the PhD, also the grade *with distinction* (value 0.0) can be given.

Refereed Publications

1. Geometrically Consistent Elastic Matching of 3D Shapes: A Linear Programming Solution.
   T. Windheuser, U. Schlickewei, F. R. Schmidt, D. Cremers *IEEE International Conference on Computer Vision (ICCV)*, Barcelona, Spain, November 2011.
2. Multilinear Model Estimation with L^2-Regularization.
   F. R. Schmidt, H. Ackermann, B. Rosenhahn *Pattern Recognition (Proc. DAGM)*, Frankfurt, Germany, Springer, LNCS, Vol. 6835, 81–90, August 2011.
3. Interactive Segmentation with Super-Labels.
   A. Delong, L. Gorelick, F. R. Schmidt, O. Veksler, and Y. Boykov *Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR)*, Sankt Petersburg, Russia, Springer, LNCS, Vol. 6819, 147–162, July 2011.
4. Large-Scale Integer Linear Programming for Orientation-Preserving 3D Shape Matching.
   T. Windheuser, U. Schlickewei, F. R. Schmidt, D. Cremers *Computer Graphics Forum (Proc. Symposium Geometry Processing)*, Lausanne, Swizerland, Eurographics, July 2011.
5. A Closed-Form Solution for Image Sequence Segmentation with Dynamical Shape Priors.
   F. R. Schmidt, D. Cremers *Pattern Recognition (Proc. DAGM)* Jena, Germany, Springer, LNCS, Vol. 5748, 31–40, September 2009. **(oral)**
6. Efficient Planar Graph Cuts with Applications in Computer Vision.
   F. R. Schmidt, E. Toeppe, D. Cremers *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* Miami, Florida, June 2009. **(awarded)**
7. Image Segmentation with Elastic Shape Priors via Global Geodesics in Product Spaces.
   T. Schoenemann, F. R. Schmidt, D. Cremers *British Machine Vision Conference (BMVC)*, Leeds, UK, September 2008.
8. Shape Priors in Variational Image Segmentation Convexity, Lipschitz Continuity and Globally Optimal Solutions.
   D. Cremers, F. R. Schmidt, F. Barthel *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Anchorage, Alaska, June 2008.
9. Fast Matching of Planar Shapes in Sub-cubic Runtime.
   F. R. Schmidt, Dirk Farin, D. Cremers *IEEE International Conference on Computer Vision (ICCV)*, Rio de Janeiro, Brazil, October 2007.
10. Intrinsic Mean for Semimetrical Shape Retrieval via Graph Cuts.
    F. R. Schmidt, E. Toeppe, D. Cremers, Y. Boykov *Pattern Recognition (Proc. DAGM)*, Heidelberg, Germany, Springer, LNCS, Vol. 4713, 446–455, September 2007. **(oral)**
11. Efficient Shape Matching via Graph Cuts.
    F. R. Schmidt, E. Toeppe, D. Cremers, Y. Boykov, *Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR)*, Ezhou, China, Springer, LNCS, Vol. 4679, 39–54, August 2007. **(oral)**
12. Shape Matching by Variational Computation of Geodesics on a Manifold.
    F. R. Schmidt, M. Clausen, D. Cremers, *Pattern Recognition (Proc. DAGM)*, Berlin, Germany, Springer, LNCS, Vol. 4174, 142–151, September 2006.

Professional Activities

Editor

1. *Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR)*, Sankt Petersburg, Russia, Springer, LNCS, Vol. 6819, July 2011.
2. *Energy Minimization Methods in Computer Vision and Pattern Recognition (EMMCVPR)*, Bonn, Germany, Springer, LNCS, Vol. 5681, August 2009.
3. *Statistical and Geometrical Approaches to Visual Motion Analysis (International Dagstuhl Seminar)*, Dagstuhl Castle, Germany, Springer, LNCS, Vol. 5604, July 2008.

Journal Reviewing

1. IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
2. IEEE Transactions on Image Processing (TIP)
3. International Journal of Computer Vision (IJCV)

Program Committee

1. IEEE International Conf. on Computer Vision and Pattern Recognition (CVPR)
2. IEEE International Conference on Computer Vision (ICCV)
3. European Conference on Computer Vision (ECCV)
4. Energy Minimization Methods in Comp. Vis. and Pattern Recog. (EMMCVPR)

Invited Talks

Conference

1. Workshop "Methods and Applications of Shape Models for Biomedical Image Segmentation", *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Toronto, Canada, September 18 2011
2. General (Nonlinear Nonconvex) Models, *SIAM Conference on Imaging Science*, San Diego (CA), USA, July 7 2008
3. Workshop "Geometry and Statistics of Shape", *Hausdorff Center for Mathematics (HCM)*, Bonn, Germany, June 9 2008

Institute

1. Paris, France, *Ecole Supérieure d'Ingénieurs en Electronique et Electrotechnique (ESIEE)*, April 8 2011
2. Paris, France, *Institut national de recherche en informatique et automatique (INRIA)*, April 5 2011
3. Iowa City(IA), USA, *University of Iowa*, Iowa Institute for Biomedical Imaging, February 21 and 23 2011
4. Munich, Germany, *Technische Universität München (TUM)*, Computer Science Department, November 19 2010
5. Hannover, Germany, *Leibniz Universität Hannover*, Electrical Engeneering and Computer Science Department (TNT), November 16 2010
6. London (ON), Canada, *University of Western Ontario (UWO)*, Computer Science Department, February 14 2008

Teaching Experience

2009 Instructor at *Deutsche Schüler Akademie (DSA) – Hilden*, Germany
Under the pratonage of Germany's President the non-profit organization "Bildung & Begabung gGmbH" organizes every year a summer school for academically highly motivated high school students, named DSA ($\sim$ German Pupils' Academy).

2008 – spring term Teaching Assistant for *Graduate Course on "Computer Vision II"*, University of Bonn

2007 – winter term Instructor for *Practical on "Shape-Based Object Recognition in Real-Time"*, University of Bonn

2006 – winter term Teaching Assistant for *Graduate Course on "Computer Vision I"*, University of Bonn

2006 – spring term Instructor for *Seminar on "Statistical Methods and Variational Approaches in Computer Vision"*, University of Bonn
An interdisiplinary seminar that attracts Master's students from Computer Science and Applied Mathematics alike.

2000 – 2003 Teaching Assistant for *Undergraduate Courses in Linear Algebra and Analysis*, University of Bonn