

CONTACT INFORMATION	Australian Centre for Visual Technologies (ACVT) University of Adelaide Level 5, Ingkarni Wardli Adelaide SA 5005, Australia <i>Phone:</i> +61 (8)-8313-6168
RESEARCH INTERESTS	Computer Vision, Machine Learning, Computer Graphics , multi-target tracking, object detection, action recognition, pose estimation, discrete and continuous optimization, modeling, physically-based rendering, image-based rendering
ACADEMIC APPOINTMENTS	<p>Post-doctoral Researcher January 2014 to present Australian Centre for Visual Technologies (ACVT), University of Adelaide, Australia</p> <ul style="list-style-type: none"> • Supervisor: Professor Ian Reid • Multi-target tracking • Semantic SLAM <p>Visiting Researcher July 2013 to December 2013 Pattern Recognition and Machine Learning, Hokkaido University, Sapporo, Japan</p> <ul style="list-style-type: none"> • Supervisor: Professor Mineichi Kudo • Multi-target tracking using infrared sensors. <p>Research Assistant November 2009 to October 2013 Visual Inference, TU Darmstadt, Germany (2010 – 2013) Image Understanding, TU Darmstadt, Germany (2009 – 2010)</p> <ul style="list-style-type: none"> • Supervisor: Professor Stefan Roth • Supervisor: Professor Konrad Schindler • Multi-target Tracking • Affiliations <ul style="list-style-type: none"> • Research Training Group: Cooperative, Adaptive and Responsive Monitoring in Mixed Mode Environments (Speaker: Professor Oskar von Stryk) <p>Student Assistant May 2006 to December 2007 Multimedia, Simulation and Virtual Reality Group, University of Bonn, Germany</p> <ul style="list-style-type: none"> • Supervisor: Dr. Arno Zinke
EDUCATION	<p>TU Darmstadt, Darmstadt, Germany</p> <p>Ph.D. (Dr. Ing), Computer Science May 2013</p> <ul style="list-style-type: none"> • <i>Summa cum Laude</i>, With Distinction • Thesis Topic: <i>Energy Minimization for Multiple Object Tracking</i> • Adviser: Professor Stefan Roth, PhD • Examiner: Professor Dr. Konrad Schindler • Co-Examiner: Dr. Ivan Laptev • Area of Study: Computer Science <p>University of Bonn, Bonn, Germany</p> <p>Diplom (~ M.Sc.), Computer Science May 2008</p> <ul style="list-style-type: none"> • <i>Cum Laude</i> • Thesis Topic: <i>Ein Ansatz zur bildbasierten Rekonstruktion der Bidirektionalen Kurvenstreuungsfunktion (BCSDF) aus Haarclustern</i>, Grade: 1.0/1.0 • Adviser: Dr. Arno Zinke • Minor in Philosophy <p>Polytechnical University of Valencia, Valencia, Spain</p> <p>Visiting student June 2007 to March 2008</p>

REFEREED
JOURNAL
PUBLICATIONS

- [1] A. Milan, K. Schindler, and S. Roth. Multi-target Tracking by Discrete-Continuous Energy Minimization. *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*. Under review.
- [2] A. Milan, S. Roth, and K. Schindler. Continuous Energy Minimization for Multi-target Tracking. *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)* 36(1). 2014.
doi:10.1109/TPAMI.2013.103
- [3] A. Zinke, T. Lay Herrera, A. Andriyenko, M. Rump, A. Weber, and R. Klein. A Practical Approach for Photometric Acquisition of Hair Color. *SIGGRAPH Asia '09: ACM SIGGRAPH Asia 2009 papers*. Dec. 2009, 28:5(165).
doi:10.1145/1618452.1618511

CONFERENCE AND
WORKSHOP
PUBLICATIONS

- [4] A. Milan, L. Leal-Taixé, K. Schindler, and I. Reid. Joint Tracking and Segmentation of Multiple Targets. In *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR)*, Boston, Massachusetts, June 2015.
- [5] A. Milan, S. Roth, K. Schindler, M. Kudo. Privacy Preserving Multi-target Tracking. In *ACCV Workshops: Workshop on Human Identification for Surveillance (HIS)*, Singapore, 2014.
- [6] A. Milan, R. Gade, A. Dick, T. B. Moeslund, I. Reid. Improving Global Multi-target Tracking with Local Updates. In *ECCV Workshops: Workshop on Visual Surveillance and Re-Identification*, Zurich, Switzerland, 2014.
- [7] S. Tang, M. Andriluka, A. Milan, K. Schindler, S. Roth and B. Schiele. Learning People Detectors for Tracking in Crowded Scenes. In *Proceedings of the Fourteenth IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, 2013.
- [8] A. Milan, K. Schindler, and S. Roth. Detection- and trajectory-level exclusion in multiple object tracking. In *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR)*, Portland, Oregon, June 2013.
- [9] A. Milan, K. Schindler, and S. Roth. Challenges of ground truth evaluation of multi-target tracking. In *Proceedings of the CVPR 2013 Workshop on Ground Truth - What is a good dataset?*, Portland, Oregon, June 2013.
- [10] A. Andriyenko, K. Schindler, and S. Roth. Discrete-continuous optimization for multi-target tracking. In *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR)*, Providence, Rhode Island, June 2012.
- [11] A. Andriyenko and K. Schindler. Multi-target tracking by continuous energy minimization. In *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR)*, Colorado Springs, Colorado, June 2011.
- [12] A. Andriyenko, S. Roth, and K. Schindler. An analytical formulation of global occlusion reasoning for multi-target tracking. In *ICCV Workshops: 11th International IEEE Workshop on Visual Surveillance*, Barcelona, Spain, November 2011.
- [13] A. Andriyenko and K. Schindler. Globally optimal multi-target tracking on a hexagonal lattice. In K. Daniilidis, P. Maragos, and N. Paragios, editors, *Proceedings of the 11th European Conference on Computer Vision (ECCV)*, volume 6311, pages 466–479, Lecture Notes in Computer Science, 2010. Springer.

OTHER
PUBLICATIONS

- [14] L. Leal-Taixé, A. Milan, I. Reid, S. Roth, and K. Schindler MOTChallenge 2015: Towards a Benchmark for Multi-Target Tracking. *arXiv:1504.01942*
- [15] Anton Milan. *Energy Minimization for Multiple Object Tracking*. PhD thesis, TU Darmstadt, Darmstadt, Germany, 2014.

- [16] Anton Andriyenko. *Ein Ansatz zur bildbasierten Rekonstruktion der Bidirektionalen Kurvenstreuungsfunktion (BCSDF) aus Haarclustern (engl.: An Approach to Image-Based Reconstruction of the Bidirectional Curve Scattering Distribution Function (BCSDF) From Hair Clusters)*. Diplom thesis, University of Bonn, Germany, 2008.

INVITED TALKS	ICCV Workshops, Sydney , RMRC Challenge	December 2, 2013
	University of Hokkaido , Pattern Recognition and Machine Learning	August 1, 2013
	MPI Saarbrücken , Computer Vision and Multimodal Computing	September 14, 2012
	RWTH Aachen , Computer Graphics and Multimedia	August 27, 2009
	University of Bonn , Computer Vision Group	August 20, 2009
	TU Darmstadt , Image Understanding	August 13, 2009

TEACHING EXPERIENCE	TU Darmstadt , Darmstadt, Germany	October 2012 to May 2013
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Teaching Assistant, Computer Vision II

- Winter 2011/2012
- Instructor for Exercises.
- Responsible for designing, distributing and grading assignments.
- Moderating student forum and course web page.

Seminar Assistant, Advanced Topics in Computer Vision

- Spring 2012, Spring 2013
- Supervising undergraduate students

Grader for HCS, Computer Graphics, Computer Vision.

PROFESSIONAL SERVICE	Workshop Chair	
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- 1st Workshop on Benchmarking Multi-target Tracking (BMTT)

Program Committee

- 1st Workshop on Understanding Human Activities: Context and Interactions (HACI 2013), in conjunction with ICCV 2013.

Reviewer

- IEEE Intl. Conf. on Computer Vision (ICCV) 2015
- IEEE Conf. on Computer Vision and Pattern Recognition (CVPR) 2015
- Photogrammetric Computer Vision (PCV) 2014
- European Conf. on Computer Vision (ECCV) 2014
- IEEE Intl. Conf. on Computer Vision (ICCV) 2013
- IEEE Conf. on Computer Vision and Pattern Recognition (CVPR) 2013
- European Conf. on Computer Vision (ECCV) 2012
- IEEE Conf. on Computer Vision and Pattern Recognition (CVPR) 2012
- IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)
- International Journal of Computer Vision (IJCV)
- Image and Vision Computing
- IEEE Signal Processing Letters
- Journal of photogrammetry, remote sensing and geoinformation processing (PFG)

PROFESSIONAL EXPERIENCE	TU Darmstadt , Darmstadt, Germany	November 2009 to October 2013
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Research Assistant and PhD Student

- Assistance in research and teaching.
- Developed new models and algorithms for multi-object tracking.
- Supervised undergraduate students in engineering and computer science.

Luminova, Melbourne, Australia

3D Shader Developer

October 2008 to May 2009

- Developed new shaders for architectural visualization.
- Maintained scripts and extended existing shaders for rendering.
- Advising on rendering techniques.

Cocoon by HGC International, Düsseldorf, Germany

Industrial Visualizer

April 2008 to October 2009

- Modeled and rendered furniture, interiors and exteriors of various hotels, lobbies, restaurants and clubs.

University of Bonn, Bonn, Germany

Student Assistant

May 2006 to December 2007

- Programmed in C++ and XML
- Developed shaders and implemented a scene parser.
- Modeled hair and other objects with 3D Max.
- Co-authored a research paper.

Primavera Gallery, New York, NY

System Administrator

October 2000 to January 2001

- Web design and maintenance.
- Photographed objects and edited images.
- System administration.

EXTRACURRICULAR COURSES

- Language Course: *Polish*, Certificate Unicert I, TU Darmstadt, Germany 2010 to 2013
- CUDA and openACC hands-on tutorial, TU Darmstadt, Germany 2012
- Language Course: *Spanish*, Level B1, Valencia, Spain 2007
- Java Course, VHS, Cologne, Germany 2002

PARTICIPATION

- Doctoral Consortium at CVPR 2013, Portland, OR, USA
- GKmM Summer School, Robots and Sensor Networks 2012, Eberburg, Germany
- INRIA VRML Summer School (VRML) 2012, Grenoble, France
- International Computer Vision Summer School (ICVSS) 2011, Sicily, Italy
- International Computer Vision Summer School (ICVSS) 2010, Sicily, Italy

SERVICE

Student Volunteer

- DAGM 2010 (German Association for Pattern Recognition) conference
- CASC 2007, International Workshop on Computer Algebra in Scientific Computing

Contributer

- Multiple Object Tracking Benchmark
- OpenGM
- BPF: Fully Automatic Multi-target Tracking System
- CAVIAR Dataset

HARDWARE AND SOFTWARE SKILLS

Computer Programming:

- MATLAB, C, C++, Java, JavaScript, Python, PHP, Perl, OpenGL, MySQL, MaxScript, Mel Script, MetaSL, HTML, Octave, Assembler, Visual Basic, Unix shell scripting, GNU make

Computer-Aided Design Tools:

- 3D Max, Maya, vRay, mentalray, Blender, AutoCAD, ArchiCAD, SketchUp, mentalmill, Poser, SolidWorks

Video Editing

- Adobe Premiere, After Effects, VirtualDub

Version Control and Software Configuration Management:

- Mercurial, Git, CVS, SVN

Desktop Editing and Productivity Software:

- Vim, Eclipse, Joe
- \TeX (\LaTeX , \BIBTeX , PSTricks),
- Microsoft Office, OpenOffice.org, LibreOffice
- Photoshop, GIMP, InkScape

Operating Systems:

- Microsoft Windows family, Linux, Apple OS X, Android, iOS

Hardware:

- Desktop computer assembly, soldering

EXPERTISE

Computer Science:

- *Computer Vision*: Multi-target Tracking, Visual Tracking, Object Detection, Optimization, Graphical Models, Face Detection, Action Recognition
- *Computer Graphics*: Physically-based Rendering, Shading, Simulation

Mathematics:

- Optimization Methods, Continuous Optimization, Discrete Inference, Graphical Models, Combinatorics, Analysis, Applied Mathematics

AWARDS

Fraunhofer IGD

- Best Paper Award, 2014 (Honorable Mention)

INRIA VRML Summer School

- Best Poster Award, 2012

Fraunhofer IGD

- Best Paper Award, 2012

REFERENCES

Available upon request.