

# Dr.-Ing. Johannes Jordan

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## CONTACT INFORMATION

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## PERSONAL DETAILS

Date of Birth: 09 November 1982 in Nuremberg  
Citizenship: German

## WORK EXPERIENCE

**Developer / Engineer** since 2020  
[SICK AG](#), Waldkirch, Germany

**Data Scientist** since 2015  
[Molecular Physiology](#), University of Freiburg, Germany

**Consultant** 2017  
[LuxFlux GmbH](#), Germany

**Research Associate** 2010 – 2015  
[Pattern Recognition Lab](#),  
Friedrich-Alexander-University Erlangen-Nuremberg (FAU), Germany

**Software Developer** 2007  
[Google Summer Of Code](#)

**Research Assistant** 2005 – 2006  
[Chair of Computer Science 6: Data Management](#), FAU, Germany

## EDUCATION

**Doctorate**, 2010 – 2015  
Doctor of Engineering, *magna cum laude*  
FAU, Germany

**Visiting Scholar**, 2013 – 2014  
National ICT Australia, Canberra, ACT

**Computer Science Studies**, 2002 – 2009  
Dipl.-Inf. Univ., *High Distinction*  
Principle subjects: Computer Graphics, Pattern Recognition, Theoretical  
Computer Science; Subsidiary subject: Psychology  
FAU, Germany

**Visiting Student**, 2008  
State University of New York at Stony Brook, NY

**Abitur**, 2002  
Gymnasium Fränkische Schweiz, Ebermannstadt, Germany

RESEARCH  
PROJECTS

**Interactive Analysis of Multispectral and Hyperspectral Image Data**, 2017  
Dissertation, Prof. Dr.-Ing. Joachim Hornegger,  
Pattern Recognition Lab, FAU

**An Eye Model as a Means for Integration of Human Vision Cues in Object Classification**, 2009  
Diploma thesis (equiv. MSc Thesis), top mark, Prof. Elli Angelopoulou, Prof. Dimitris Samaras  
Pattern Recognition Lab, FAU, Computer Vision Group, State University of New York at Stony Brook

**Dynamische Nachbarschaftsgraphen in der Partikelschwarmoptimierung** (Dynamic Neighborhood Topologies in Particle Swarm Optimization), 2007  
Student thesis (equiv. BSc Thesis), top mark, Prof. Dr. Rolf Wanka  
Lehrstuhl für Hardware-Software-Co-Design, FAU Erlangen-Nürnberg

PUBLICATIONS

J. Schwenk, S. Boudkkazi, M. Kocylowski, A. Brechet, G. Zolles, T. Bus, K. Costa, A. Kollwe, J. Jordan, ... & B. Fakler. "An ER assembly line of AMPA-receptors controls excitatory neurotransmission and its plasticity", *Neuron*, vol. 104, no. 4, pp. 680-692, 2019.

V. Kusch, G. Bornschein, D. Loreth, J. Bank, J. Jordan, D. Baur, ... & H. Schmidt. "Munc13-3 Is Required for the Developmental Localization of Ca<sup>2+</sup> Channels to Active Zones and the Nanopositioning of Ca<sub>v</sub>2.1 Near Release Sensors", *Cell reports*, vol. 22, no. 8, pp. 1965-1973, 2018.

J. Jordan, E. Angelopoulou, A. Maier. "A Novel Framework for Interactive Visualization and Analysis of Hyperspectral Image Data", *Electrical and Computer Engineering*, vol. 2016, no. 2635124, 2016.

T. Köhler, J. Jordan, A. Maier, J. Hornegger. "A Unified Bayesian Approach to Multi-Frame Super-Resolution and Single-Image Upsampling in Multi-Sensor Imaging", *British Machine Vision Conference (BMVC)*, September 2015, pp. 143.1-143.12.

J. Jordan, E. Angelopoulou, A. Robles-Kelly. "An Unsupervised Material Learning Method for Imaging Spectroscopy", *IEEE Joint Conference on Neural Networks*, July 2014, pp. 2428-2435.

J. Jordan, E. Angelopoulou. "Mean-shift Clustering for Interactive Multispectral Image Analysis", *IEEE International Conference on Image Processing*, September 2013, pp. 3790-3794.

J. Jordan, E. Angelopoulou. "Hyperspectral Image Visualization With a 3D Self-organizing Map", *IEEE Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing*, June 2013, pp. 1-4.

A. Maier, Z. Jiang, J. Jordan, C. Riess, H. Hofmann, J. Hornegger. "Atlas-based linear volume-of-interest (ABL-VOI) image correction", *SPIE Medical Imaging 2013: Physics of Medical Imaging*, February 2013, vol. 8668, pp. 8668-83

V. Christlein, C. Riess, J. Jordan, C. Riess, E. Angelopoulou. "An Evaluation of Popular Copy-Move Forgery Detection Approaches", *IEEE Transactions on Information Forensics and Security*, vol. 7, no. 6, pp. 1841-1854, 2012. **2017 IEEE Signal Processing Society Best Paper Award**

- J. Jordan, E. Angelopoulou. “Supervised Multispectral Image Segmentation with Power Watersheds”, *IEEE International Conference on Image Processing*, September 2012, pp. 1585–1588.
- J. Jordan, E. Angelopoulou. “Edge Detection in Multispectral Images Using the n-dimensional Self-Organizing Map”, *IEEE International Conference on Image Processing*, September 2011, pp. 3181–3184.
- J. Jordan, E. Angelopoulou. “Gerbil – A Novel Software Framework for Visualization and Analysis in the Multispectral Domain”, *VMV 2010: Vision, Modeling and Visualization*, November 2010, pp. 259–266.
- C. Riess, J. Jordan, E. Angelopoulou. “A Common Framework for Ambient Illumination in the Dichromatic Reflectance Model”, *IEEE Color and Reflectance in Imaging and Computer Vision Workshop*, October 2009, pp. 1939–1946.
- J. Jordan, S. Helwig, R. Wanka. “Social Interaction in Particle Swarm Optimization, the Ranked FIPS, and Adaptive Multi-Swarms”, *Annual conference on Genetic and Evolutionary Computation (GECCO)*, July 2008, pp. 49–56.

TEACHING  
EXPERIENCE

**Computer Science for Engineers**, Recitation Sessions  
**Software Systems**, Recitation Sessions  
**Functional and Logic Programming**, Recitation Sessions  
**Computer Vision**, Recitation Sessions  
**Wavelet Transform in Image Processing**, Recitation Sessions  
**New Methods in Image Forensics**, Seminar

THESES  
SUPERVISION

Daniel Danner, “Unsupervised Segmentation of Multispectral and Hyperspectral Image Data”, Student thesis, 2011.

Ralph Müssig, “Variants of Self-Organizing Maps for Edge Detection”, Student thesis, 2011.

David Föhrweiser, “Empirical Analysis of Semi-automatic 2D/3D Image Segmentation Approaches”, Student thesis, 2011.

Felix Lugauer, “Self-Organizing Maps for Edge Detection in Multispectral Images”, BSc thesis, 2010.

Vincent Christlein, “A Common Framework for Copy-Move Forgery Detection”, Student thesis, 2009.

AWARDS AND  
HONOURS

Scholarship, Deutscher Akademischer Austauschdienst (DAAD), 2008  
 Two-times Participant at South Western European Regional Programming Contest (SWERC) of the ACM [International Collegiate Programming Contest](#) (ICPC) after local qualifications, 2005 – 2006

SERVICES	<p>Peer review for Real-Time Image Processing (Springer), Geoscience and Remote Sensing Letters (IEEE), Machine Vision and Applications (Springer), Information Fusion (Elsevier), IET Image Processing, and IEEE Workshop on Applications in Computer Vision</p> <p>Academic self-governance at FAU: Member of faculty council, CS department steering committee, CS curriculum committee, CS committee for student funds appropriation, FAU student parliament</p> <p>Problem setter for local ACM ICPC competition at FAU</p>
FREE SOFTWARE	<p><a href="#">Gerbil hyperspectral visualization and analysis framework</a>, since 2010</p> <p>Mentoring (Gerbil project) in <a href="#">Summer of Code in Space</a>, European Space Agency, 2012 – 2016</p> <p>Various small open-source software projects since 2004, some included into several major GNU/Linux distributions</p>
PROGRAMMING EXPERIENCE	<p><b>Expert Knowledge:</b> C++17, C, Python, Javascript, Qt, OpenCV, PHP</p> <p><b>Working Knowledge:</b> Java EE, Perl, OpenGL, SQL, MATLAB, Lua, Bash</p> <p><b>Basic Knowledge:</b> Go, Scheme, Gtk+</p> <p><a href="#">600+ answers on Stack Overflow</a></p>
SYSTEM ADMINISTRATION	<p>Ubuntu, Debian GNU/Linux, Arch Linux; Client und Server</p> <p>Apache HTTP Server, OpenLDAP, MySQL/MariaDB, QEMU/KVM</p>
ADVANCED TRAININGS	<p><b>Agiles Projektmanagement: Mit Scrum!</b> Two-day workshop, Freiburger Akademie für Universitäre Weiterbildung (FRAUW), 2017</p> <p><b>Intercultural Communication: Developing Key Problem-Solving Skills for the International Workplace</b> Two-day workshop, 2014</p> <p><b>Presentation &amp; Rhetoric</b> Two-day workshop, FBZHL Erlangen, 2013</p>
LANGUAGE SKILLS	<p>German: native</p> <p>English: fluently</p> <p>French: basic knowledge</p> <p>Russian: basic knowledge</p>
HOBBIES AND INTERESTS	<p>Maker culture (Freilab e.V., Freiburg; FabLab Erlangen)</p> <p>Literature and film</p> <p>Bouldering, mountaineering, cycling</p>