

## Dipl.-Ing. Dr. techn. Andreas Daniel Hartl



### Contact:

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## Curriculum Vitae

### Personal Data

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Date of Birth: 14.09.1982  
Citizenship: Austria

### Education

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- 2011 – 2015 **PhD in Computer Science (with distinction)**  
Graz University of Technology, Austria  
*PhD Thesis:* Mobile Interactive Document Verification;  
Supervisor: Prof. Dieter Schmalstieg; Referee: Prof. Hideo Saito
- 2002 – 2010 **Master in Telematics/Computer Science (with distinction)**  
Graz University of Technology, Austria  
*Master Thesis:* Computer-Vision-Based Pharmaceutical Pill Recognition on Mobile Phones; Supervisor: Prof. Dieter Schmalstieg  
*Master Project* (in collaboration with IVM Technical Consultants GmbH):  
Automotive Gateway Qualification; Supervisor: Prof. Christian Steger
- 1997 – 2001 **High School (with distinction)**  
Dr. Arthur Lemisch, St. Veit an der Glan, Austria  
*Pre-Scientific Work:* “New Aspects of Computer Graphics on Windows”;  
Supervisor: Mag. Arno Trink

## Employment

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- March 2016 **Self-Employment** focusing on Computer Vision and Augmented Reality  
Exemplary projects:  
*New Augmented Reality Framework for Mobiles*  
*Gesture Detection and Hand Tracking*  
*Tracking and Identification of an Arrangement of Light Emitting Diodes*  
*Reading and Inspection of Security Documents with Mobile Augmented Reality*
- 2010 – 2016 **Project Scientist** at the Institute for Computer Graphics and Vision (ICG)  
Graz University of Technology, Austria  
Main Project: *Mobile Interactive Document Verification* (in collaboration with  
Bundesdruckerei GmbH, Berlin, Germany)  
Teaching: Supervision of various theses conducted by students
- 2009 **Teaching Assistant** at the Institute for Technical Informatics (ITI)  
Graz University of Technology, Austria  
Laboratory Tutorial: *Digital Signal Processors*
- 2007 **Internship** at IVM Technical Consultants GmbH, Graz, Austria  
Feasibility Study: *Automotive Gateway Qualification*
- 2001 – 2002 **Military Service** (Austrian Army)
- 2001 **Web Developer** at PCS GmbH, Klagenfurt am Wörthersee, Austria.

## Skills

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- Platforms: Windows, Linux, Android, iOS
- Programming: C/C++, C#, Java, Objective-C/Swift  
OpenGL ES, Unity  
Matlab/Octave, Python, TensorFlow  
PHP, SQL, HTML, XML, Latex  
Subversion, Git, CMake
- Languages: German (native), English (fluent)
- Driver's licenses: A, B, F

## Research Interests

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- Camera-based Object Detection, Recognition and Tracking
- Human-Computer Interaction
- Mobile Augmented Reality
- Industrial Computer Vision

## Peer-Reviewed Publications

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- 2015 [A. Hartl](#), C. Arth, J. Grubert and D. Schmalstieg. “*Efficient Verification of Holograms Using Mobile Augmented Reality*”, Transactions on Visualization and Computer Graphics
- [A. Hartl](#), W. A. Isop, C. Arth and D. Schmalstieg. “*Towards Mobile Recognition and Verification of Holograms Using Orthogonal Sampling*”, 1<sup>st</sup> Workshop on Visual Recognition and Retrieval for Mixed and Augmented Reality
- [A. Hartl](#), J. Grubert, C. Arth, C. Reinbacher and D. Schmalstieg. “*Mobile User Interfaces for Efficient Verification of Holograms*”, IEEE Virtual Reality
- [A. Hartl](#), C. Arth and D. Schmalstieg. “*Real-time Detection and Recognition of Machine-Readable Zones with Mobile Devices*”, Proceedings of the International Conference on Computer Vision Theory and Applications
- 2014 [A. Hartl](#), C. Arth and D. Schmalstieg. “*AR-based Hologram Detection on Security Documents using a Mobile Phone*”, International Symposium on Visual Computing
- [A. Hartl](#), D. Schmalstieg and G. Reitmayr. “*Client-Side Mobile Visual Search*”, Proceedings of the International Conference on Computer Vision Theory and Applications
- 2013 [A. Hartl](#), J. Grubert, D. Schmalstieg and G. Reitmayr. “*Mobile Interactive Hologram Verification*”, Proceedings of the 12<sup>th</sup> IEEE International Symposium on Mixed and Augmented Reality
- 2012 [A. Hartl](#) and G. Reitmayr. “*Rectangular Target Extraction for Mobile Augmented Reality Applications*”, Proceedings of the 21st International Conference on Pattern Recognition
- 2011 L. Gruber, [A. Hartl](#), C. Arth, S. Hauswiesner and D. Schmalstieg. “*Rapid Reconstruction of Small Objects on Mobile Phones*”, Proceedings of the Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)
- [A. Hartl](#), C. Arth and D. Schmalstieg. “*Instant Medical Pill Recognition on Mobile Phones*”, Proceedings of the IASTED International Conference on Computer Vision
- 2010 [A. Hartl](#), C. Arth, D. Schmalstieg. “*Instant Segmentation and Feature Extraction for Recognition of Simple Objects on Mobile Phones*”, Proceedings of the Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)