

## ■ Personal information

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Name

**Daniel Pohl**

Address

Puchheim, Germany  
E-Mail: daniel.pohl@qwrt.de

## ■ Experience

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Since 07/2016

**Computer Vision Engineer**

Intel Deutschland GmbH, Munich

Developing obstacle avoidance for civil drones

- Vision-based using depth cameras
- Research on new algorithms
- Performance optimizations
- Patents

03/2007 – 06/2016

**Research Scientist**

Intel Deutschland GmbH / Intel Corporation

Innovating in computer graphics, especially

- virtual reality
- real-time ray tracing for games
- in-home streaming
- cloud gaming

Research project management and people management.

05/2011 – 06/2016: Intel Saarbrücken

01/2008 – 04/2011: Santa Clara, California

Intel Headquarter "Silicon Valley"

03/2007 – 12/2007: Erlangen

**Freelancing journalist**

Gamestar (IDG Verlag), Munich

Writing articles about games and technology

Since 03/2005



## ■ Education

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10/2000 – 09/2006

**Master's degree Computer Science**

University Erlangen-Nürnberg

Main topics

- Computer graphics
- Network technologies
- Software engineering

## Master Thesis

- Interactive ray tracing for large, dynamic game scenarios

## Degree

- Master's degree ("Diplom-Informatiker")
- Grade (German system): 1.5 (very good)

## ■ Languages

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German

Mother tongue

English

Fluent

## ■ Skills

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Graphics

Ray tracing, OpenGL, distributed rendering, Unity

Programming languages

C, C++, C#, HTML and others as required

Others

OS-independent programming with libSDL, network programming, multi-threading, OpenCV, Eigen, LZ4, Visual Studio, GIT, SourceTree, ...

Development OS

Windows, Linux, Android

## ■ Patents

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2018

**Two patents filed** in the area of automotive and drones (as of February 2018).

2017

**Nineteen patents filed** in the areas of virtual reality, automotive, drones, graphics, vision, light fields and augmented reality.  
Member of the Intel **patent committee**.

2016

**Six patents filed** in the areas of virtual reality, graphics, eye tracking, drones and IoT.

2015

**One patent granted**  
Distortion Meshes Against Chromatic Aberrations  
US 14/316,322

## ■ Peer-reviewed publications

IEEE VR 2018 (accepted)	<b>Concept for Rendering Optimizations for Full Human Field of View HMDs</b> Daniel Pohl, Nural Choudhury and Markus Achtelik
Federated Conference on Computer Science and Information Systems (FedCSIS) 2017	<b>The Next Generation of In-home Streaming: Light Fields, 5K, 10 GbE, and Foveated Compression</b> Daniel Pohl, Daniel Jungmann, Bartosz Taudul, Richard Membarth, Harini Hariharan, Thorsten Herfet and Oliver Grau <b>Best Paper Award</b>
ACM VRST 2016	<b>Concept for Using Eye Tracking in a Head-Mounted Display to Adapt Rendering to the User's Current Visual Field</b> Daniel Pohl, Xucong Zhang, Andreas Bulling and Oliver Grau
ACM VRST 2016	<b>Concept for content-aware, automatic shifting for spherical panoramas</b> Daniel Pohl and Oliver Grau
IEEE VR 2016	<b>See what I see: concepts to improve the social acceptance of HMDs</b> Daniel Pohl and Carlos Fernandez de Tejada
IEEE VR 2016	<b>Combining Eye Tracking with Optimizations for Lens Astigmatism in modern wide-angle HMDs</b> Daniel Pohl, Xucong Zhang and Andreas Bulling
IEEE VR 2015	<b>Using Astigmatism in Wide Angle HMDs to Improve Rendering</b> Daniel Pohl, Timo Bolkart, Stefan Nickels and Oliver Grau
International Journal of Computer Science And Applications (IJCSA) 2015	<b>Advanced in-home streaming to mobile devices and wearables</b> Daniel Pohl, Bartosz Taudul, Richard Membarth, Stefan Nickels and Oliver Grau
Federated Conference on Computer Science and Information Systems (FedCSIS) 2014	<b>High quality, low latency in-home streaming of multimedia applications for mobile devices</b> Daniel Pohl, Stefan Nickels and Oliver Grau <b>Best Paper Award</b>
ACM VRST 2013	<b>Improved Pre-Warping for Wide Angle, Head Mounted Displays</b> Daniel Pohl, Gregory S. Johnson and Timo Bolkart

## ■ Technical articles

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Intel Developer Zone  
2012

Tracing Rays Through the Cloud

Intel Developer Zone  
2011

Experimental Cloud-based Ray Tracing Using Intel®  
MIC Architecture for Highly Parallel Visual Processing

Intel Developer Zone  
2009

Quake Wars Gets Ray Traced

PC Perspective 2008

Ray Tracing and Gaming - One Year Later

PC Perspective 2006

Ray Tracing and Gaming

Puchheim, May 2018

Daniel Pohl