## Richard Schubert

## curriculum vitae

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| **Github:** | [github.com/Hemofektik](https://github.com/Hemofektik) |
| **Date of Birth:** | 16.03.1984 |
| **Marital Status:** | Married |

## --- Personal Profile

* Versatile Software Engineering Professional with advanced knowledge of Computer Graphics and Geospatial Data Processing
* More than eight years experience in game development
* Highly effective in rapid prototyping
* Experienced in Agile Process Models (Scrum, Agile Requirements Engineering)
* Supplemental Interests: Machine Learning, Robotics, GIS

## --- Experience

CTO and Co-Founder of RealSynth GmbH (June 2017 - Today)

* Graduate from three-month Techstars IoT '17 Startup accelerator, New York City
* Growth, business development and fundraising
* Hiring and managing manifold development teams
* Planning, tendering, contracting and supervising software and content creation projects
* Designing Multitier Software Architectures
* Engineering and research in building virtual simulations to generate synthetic annotated data for machine learning applications such as autonomous vehicles

• Trained CNNs using state-of-the-art tools and frameworks (yolo, DIGITS, caffe, alexnet)

• Extending capabilities of Unreal Engine 4

• Render precise segmented images including occlusion segmentation

• Simulate LiDAR Sensors including Ground Truth

• Integrate industry standard interfaces (e.g. ROS, Remote Python)

• Processing of GIS data sources (e.g. OpenStreetMap, Mapzen Elevation)

R&D Software Engineer at Siemens, Mobility Division, Technology & Innovation (August 2016 – September 2017)

* Engineering and research in advanced driver assistance systems
* Railway Map data processing/navigation graph building
* Map based Localization on railway tracks
* Collision estimation (model+decision) for upcoming railway line using Lidar and Radar
* Autonomous emergency braking of a train based on obstacles detected on upcoming track
* Integration of various hardware sensors into ROS Ecosystem
* Implementation of various sensor fusion algorithms
* Implementation of Unit, Component, and Integration Tests of sensors and autonomous systems

R&D Engineer of Innovation Lab at MeteoGroup GmbH (August 2012 – February 2016)

* Working on MeteoEarth App+Backend - Advanced real-time weather visualization targeted on mobile devices using OpenGL ES 2.0 (iOS, Android, Windows 8+10, Mac, tvOS)

• www.meteoearth.com (HTML5, emscripten, AngularJS, Node.js)

* Processing of Satellite Imagery (Spectrum Classification based on Multivariate Gaussian Distribution, G-Means-Clustering, Reprojection)
* Working on RainToday App+Backend - Research and Development of novel Precipitation Nowcasting Simulation and Visualization by leveraging Motion Tracking and Extrapolation (iOS, Android, HTML5)

Core Software Engineer at Yager Interactive GmbH (July 2011 – July 2012)

* Working on unannounced projects
* Optimizing Unreal Engine 3 to support Virtual Reality (VR) for car configuration
* Integrating multitier architecture middleware into Unreal Engine 3
* Development of new graphical features that exceed capabilities of Unreal Engine 3

System Architect of milon OS (April 2009 – August 2011)

* milon OS is a solution for managing large fitness studios including networking between electronic fitness equipment (Winner of FIBO INNOVATION AWARD 2010)

• Development of multitier architecture from scratch using DB2, Nhibernate, and WCF

• Implemented and integrated parts of the User Interface using WPF and Expression Blend

Graphics Programmer at Yager Development GmbH (April 2008 – June 2011)

* Working on Spec Ops: The Line a video game for PC, Xbox360 and PS3

• Responsible for implementing various graphical features (e.g. global illumination for

dynamic objects using spherical harmonic irradiance) for Unreal Engine 3

• Creation and Maintenance of multi-platform Parallel Computation API

* Implementation & Extension of several In-house Tools

• Creating new Material Editor extensions including vertex animation support

• Creating new and extending existing .NET Unreal Engine 3 Editor Interfaces

Part Time Programmer at Yager Development GmbH (October 2003 – March 2008)

* Worked on 2 unreleased Games, several Prototypes and Spec Ops: The Line (all for PC,

Xbox / Xbox360 and PS3)

* Extended In-house Game Engine by advanced shading technologies

## --- Education

Master Degree in Computer Science, German Degree: Diplom Informatiker (FH)

Beuth-Hochschule für Technik Berlin - University of Applied Sciences (2004 – 2008)

03/2008 - Final Grade: Very Good, Passed with Distinction

Thesis: "Methods Of Texture Synthesis For Realistic Rendering Of 3D Scenes In Real-Time"

## --- Skills

Language:

* German (native)
* English (fluent)

Tech:

* C/C++, NEON/SSE/OMP/AMP, .NET, C#, F#, Python
* GPU Programming (DirectX, libGCM, OpenGL ES, OpenCL)
* ROS, emscripten, OpenCV, FANN
* WPF, Silverlight, WinForms, WCF, WiX, NHibernate
* GIS, QGIS, GDAL, Proj.4
* HTML5, Node.js, TypeScript, AngularJS, Material Design
* SQL, Java, UnrealScript, LUA, Perl, PHP
* CMake, Visual Studio, ARM DS-5, Xcode, Android Studio, Sublime
* Git, SVN, AlienBrain, Perforce, TTP, JIRA, Crucible, Bamboo

Platforms:

* Windows PC
* Unix / Linux
* Virtual Reality (VR)
* Xbox / Xbox360 / XboxOne
* PlayStation 3 / 4
* iOS
* Android
* HTML5
* Windows Phone/RT