

# RICHARD SCHUBERT

## curriculum vitae

**Address:** Heinrich-Zille-Str. 4,  
16540 Hohen Neuendorf, Germany  
**Phone:** +49 176 4829 4404  
**Email:** [rs@hemofektik.de](mailto:rs@hemofektik.de)  
**Web:** [rs.hemofektik.de](http://rs.hemofektik.de)  
**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
- More than eight years experience in game development
- Passionate .NET developer
- Specialized in rapid prototyping
- Experienced in Agile Process Models (Scrum, Agile Requirements Engineering)
- Preferred way to work if applicable: Prototyping in .NET; Product Development in C/C++
- Supplemental Interests: Machine Learning, Geospatial Data Processing

### --- Experience

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

- Business Development
- 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 to render precise segmented images
  - 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 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: **1,23** ("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, Python
- 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