Simon Kallweit

Personal Data

Born	7 Nov 1982, Switzerland
Address	Grubenweg 4, 3360 Herzogenbuchsee, Bern, Schweiz
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Education

02/17/2014 – 06/03/2016 **MSc in Computer Science**, *Swiss Federal Institute of Technology (ETH)*, Zürich.

Specialization Track: Visual Computing

Thesis: "Learning High-Order Scattering in Rendering from Data" Supervisor: Prof. Markus Gross

09/20/2010 – 08/30/2013 **BSc in Computer Science**, *Swiss Federal Institute of Technology (ETH)*, Zürich.

Major: Computational Science

Thesis: "Photon Beam Methods in Rendering" Supervisor: Prof. Markus Gross

Work Experience

07/03/2017 – present **Software Engineer**, *ESRI R&D Center*, Zürich.

Working as a core developer on the *ArcGIS API for JavaScript* platform:
- Improving the WebGL based rendering engine
- Design and implementation of various interactive tools for measuring features on maps
- General development work

03/01/2017 – 06/09/2017 **Intern**, *DRZ*, Zürich.

Worked on *Deep Scattering: Rendering Atmospheric Clouds with Radiance-Predicting Neural Networks* publication for SIGGRAPH Asia 2017.

11/14/2016 – 02/24/2017 **Software Engineer**, *Freelancer*.

Worked on various software projects, most notably developed a custom web presence for *swiss-PVD Coating AG*.

09/02/2014 – 01/16/2015 **Technology Intern**, *Walt Disney Animation Studios*, Burbank, CA.

Worked on several problems and tasks related to rendering of participating media within Disney's Hyperion Renderer:
- Integration of Field3D and OpenVDB data formats
- Implementation of transformation, advection and interpolation based motion blur for volumes
- Design and development flexible yet performant framework for volume rendering
- Design and development of a high performance adaptive volume data structure

06/30/2014 – 08/22/2014 **Intern**, *DRZ*, Zürich.
- Development of CUDA based volume rendering framework using residual ratio tracking
- Extended residual ratio tracking with tri-linearly interpolated control variate

06/01/2008 – 12/16/2011 **Software Developer**, *FELA Management AG*, Diessenhofen.

Development lead for a commercial localization platform based on GSM/GPS technology. Contributions to the open-source real-time operating system eCos.

11/01/2001 – 03/31/2008 **Software Developer**, *intefo AG*, Herzogenbuchsee.

Responsible for analysis, design, implementation, testing and maintenance of software systems. Worked in multiple fields, including user interfaces, server applications and embedded systems in both Windows- and Linux-based environments.

Publications

2017 *Deep Scattering: Rendering Atmospheric Clouds with Radiance-Predicting Neural Networks*, Simon Kallweit, Thomas Müller, Brian McWilliams, Markus Gross, Jan Novák, Proceedings of SIGGRAPH Asia 2017 (link)

Awards

December 2015	ETHZ Rendering Competition, 1st place (link)
December 2015	ETHZ Physically Based Simulation, 1st place (link)
June 2014	ETHZ Rendering Competition, 2nd place (link)
Aug 2013	Demodays, 4k Procedural Graphics, 1st place (link)
Mar 2013	Revision, PC 64k Intro, 2nd place (link)
Aug 2012	Demodays, Realtime Size-Limited Compo, 1st place (link)

Languages

German	Native
English	Fluent
French	Basic

Computer Skills

Languages	C/C++11, x86 SIMD, GLSL, CUDA, Python, JavaScript, Haskell
Tools	Git, Qt, CMake, Matlab, Mathematica, LaTeX
OS	OSX, Linux, Windows

Interests and Projects

Physically based rendering

Demoscene, size-limited programming

Electronic music production and live performance