Dario Seyb

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Education

August 2018 – 2023 (expected) — **Dartmouth College** — *PhD Student*
PhD student in the Visual Compute Lab. Focus on implicit surface rendering.

October 2014 – July 2018 — **RWTH Aachen University** — *Undergraduate Student*
Computer science with a focus on computer graphics and geometry processing.
Thesis: "A Multi-layered Approach to Embedded Mesh Deformation"

March – June 2014 — **EUCROMA** — *Student*
5-month course offered by The Danish Filmschool on game and film production.

Work Experience

June 19 – August 19 — **Graphics R&D Intern at Activision/Blizzard**
Researching new light baking techniques for partially dynamic scenes. Results were used in production.

October 16 – August 18 — **CTO/Co-Founder at NVRMIND**
Working on art tools for VR, mainly AnimVR, a VR animation program that supports hand drawn, frame-by-frame animation as well as importing and animating assets from most 3D file formats. Used in production by several studios.

November 15 – February 18 — **Student Research Assistant at the Visual Computing Institute at RWTH Aachen**
Creating a laser cut layout tool and writing drivers for various laser cutters in C++

April 15 – October 15 — **Software Engineer Intern at Microsoft**
Working on business intelligence and telemetry solutions. Analyzing big data and creating a custom query engine with its own query language and visualization frontend.
Created a CSS regression testing suite during a Microsoft internal hackathon.

June 14 – July 15 — **Graphics Programmer at XTODIE**
Worked on the explorational horror game Ragnarök for the Oculus Rift. (remote work)

July 14 – April 15 — **Frontend Programmer at Klang Games**
Completed various gameplay and graphics programming related tasks. (remote work)

August 13 – November 13 — **Internship at Newtracks**
Gameplay Programmer. Developed game prototypes using Unity3D and C#.

July 2011, October 2011 July 2012 — **Multiple internships at Brightside Games**
Gameplay- and Tools Programmer for iOS using Unity3D and C#

Accomplishments

November 2019 — **Won the Dartmouth Rendering Competition**

April 2017 — **Won the Unity3D Editor VR Contest with the 3D sculpting tool "Creations"**

February 2015 — **Was awarded a scholarship by the German National Academic Foundation**

January– June 2013 — **A second prize in the first round and a third prize in the second round of the "Bundeswettbewerb Informatik" (German computer science competition)**

Publications

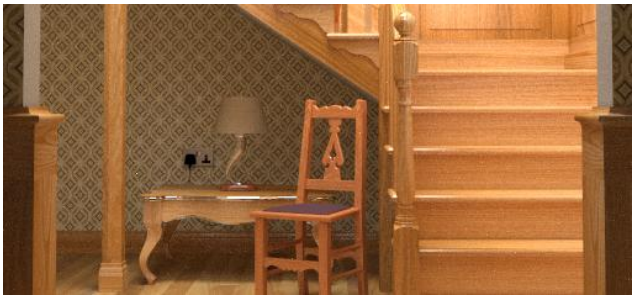
2019 — Dario Seyb, Alec Jacobson, Derek Nowrouzezahrai, Wojciech Jarosz. Non-linear sphere tracing for rendering deformed signed distance fields. *ACM Transactions on Graphics (Proceedings of **SIGGRAPH Asia**)*, 38(6), November 2019.

Notable Projects

RERUNNERS (KLANG GAMES | 2014 - 2015)

ReRunners is a 2D running game with asynchronous multiplayer made by Klang Games. I worked mostly on the frontend part of the game, which included things like character rendering and animation systems, optimizing the level rendering and designing a camera system which works well in an open world.

ZAPHOD (PERSONAL | 2013 - 2019)



Zaphod is a raytracer running on the CPU. I started this project to refresh my 3D math and C++ skills. I use it as a starting for implementing various rendering algorithms. Most notably I implemented a basic version of “Gradient Domain Path Tracing”, an importer for Mitsuba files, Alembic Cache support and a Blender exporter for my own scene format. You can check out the code on GitHub: daseyb/zaphod

AnimVR (NVRMIND | 2016 - 2019)

ANIMVR enables users to draw & animate in VR, providing a set of tools based on concepts used in traditional animation: like frames, onionskin, multiple timelines etc. We released on all major headsets in 2018 and the tool is used by professionals and hobbyist alike to create virtual worlds and tell stories.

CREATIONS (NVRMIND | 2016)

Creations is a VR sculpting tool in the style of Oculus Medium. I developed a SDF rendering engine and various brush types for sculpting as well as support for spray painting directly onto the model. It supports EditorVR, was shown during the Unite 2016 keynote and won the EditorVR contest in 2017.