Eric Arnebäck – Curriculum Vitae

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Date of Birth	29 November 1993	**Website**	erkaman.github.io

Education

2012-2015   BSc in Information Technology, Chalmers University of Technology

2015-2017   MSc in Computer Science, Chalmers University of Technology

Employment History

Sep 2016 - Fraunhofer-Chalmers Centre for Industrial Mathematics
Mar 2017   *Contracted Student*

Worked as a contracted student a couple of days every week while studying at the university. I explored and implemented approaches to rendering particle simulations with a large number of particles at interactive frame rates. I also explored and implemented procedural generation of meshes, where the meshes are to be used in the visualization of particle simulations.

Technologies Used: GLSL, OpenGL, C++.

Jun 2017 - Fraunhofer-Chalmers Centre for Industrial Mathematics
Present   *Development Engineer*

Responsible for developing and adding new features to the graphics engine of the software Industrial Path Solutions.

Technologies Used: GLSL, OpenGL, C++, Vulkan.

Skills

- Advanced knowledge of **Graphics Programming** with **OpenGL** and **WebGL**.

- Advanced knowledge of **Object-Oriented Development**, mainly using **C++** and **Java**.

- Advanced knowledge of **Mesh Processing**, having implemented techniques like **Mesh Deformation** and **Mesh Parameterization**.

- Intermediate knowledge of **GPGPU Programming** with **CUDA** and **OpenGL**.

- Intermediate knowledge of **front-end web development** using **Javascript**, **HTML** and **CSS**.

Selected Personal Projects

regl

I was once a very active contributor to the **open source WebGL framework regl**. I have written many code examples for the purpose of making the framework easier to learn for beginners, reported and fixed many bugs, written unit tests, and improved the documentation.

gl-water2d

I implemented a water simulation with **Smoothed Particle Hydrodynamics** using **Javascript** and **WebGL**. The main purpose of the demo was to provide a readable reference implementation of water simulation in Javascript.

Master's Thesis: "Comparing a Clipmap to a Sparse Voxel Octree for Global Illumination"

I implemented **Real-time Global Illumination with Voxel Cone Tracing** using two different approaches and compared their respective merits and drawbacks. Implementing both approaches within the given time-frame was an enormous task, but thanks to my well-planned time schedule I was able to complete the project, and perform the comparison in the end.