Sebastian Klaassen

Resume

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Objective

To secure a challenging position in research oriented software engineering.

Theses

Master's Thesis **Scalability of Modern Scatterplot Visualizations for Large Image Datasets**.
Investigating scatterplot scalability both in terms of what is feasable (performance scalability) and what is reasonable (information scalability).

Bachelor's Thesis **Solving Communication-Intensive Problems Efficiently Using On-Chip Mesh Interconnection Networks**.
Design and simulation of a three dimensional mesh-connected array processor.

Publications

01.2018 **ColorMoves: Real-time Interactive Colormap Construction for Scientific Visualization**, *Samsel F., Klaassen S. and Rogers D.H.*, IEEE computer graphics and applications.
accepted

08.2017 **Data Mining Atomically Resolved Images for Material Properties**, *Klaassen S.*, 2017 Smokey Mountain Computational Science and Engineering Conference Data Challenge Poster.

06.2016 **Solving Communication-Intensive Problems Efficiently Using On-Chip Mesh Interconnection Networks**, *Klaassen S.*, 2016 ISC HPC Conference Research Poster.

05.2016 **Interactive colormapping: Enabling multiple data range and detailed views of ocean salinity**, *Samsel F., Klaassen S., Petersen M., Turton T.L., Abram G., Rogers D.H. and Ahrens J.*, In Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems (pp. 700-709). ACM.

Education

03.2014–10.2017 **MSc in Computer Science - Media Informatics**, *University of Vienna*, Vienna.
with distinction

03.2011–01.2014 **BSc in Computer Science - Scientific Computing**, *University of Vienna*, Vienna.

06.2009 **Graduation from Technical High School - Mechatronics**, *Höhere Technische Bundeslehranstalt Wien 10*, Vienna, *with distinction*.

10.2012–11.2012 **CS188.1x Artificial Intelligence**, *BerkleyX*, `https://www.edx.org`.
with distinction

Work experience

from 04.2018 **Post-Master's Research Associate**, *Oak Ridge National Lab*, `https://ornl.gov/`.
1) Development of tools for distribution, analysis, and visualization of remote sensing data.
2) Development of visually appealing and interactive web sites.
3) Development of REST-based web services for data delivery.
4) Development of high-quality data visualizations for end user access.

2017 **Contract Engineer**, *Allen Institute for Cell Science*, `http://www.allencell.org/`.
Development of a WebGL-based successor for the Interactive Plotting tool on the Allen Cell web page. The tool is capable of interactively rendering datasets of more than a million cells.

05.2015–02.2016 **Internship**, *Los Alamos National Lab*, `http://lanl.gov/`, Los Alamos, NM.
1) Development of a data analysis tool for in-situ exploration of large scale image databases.
2) Development of an application for interactively designing color maps.

04.2014–04.2015 **Research Assistant**, *University of Vienna - Research group Visualization and Data Analysis*, `http://cs.univie.ac.at/vda`, Austria: Vienna.
Implementation of a novel ray tracing algorithm.

08.2007 and 08.2008 **Internship**, *International Institute for Applied Systems Analysis*, `http://www.iiasa.ac.at`, Austria: Laxenburg.
1) Preparation of environmental data for database upload.
2) Integration of the JasperReports library into the web interface.

Awards

2017 **SMC Data Challenge 2017**, *Smokey Mountain Computational Science and Engineering Conference*, `https://smc-datachallenge.ornl.gov/2017/`, **Best Solution**.
Data mining atomically resolved images for material properties

2009 **ARGE 3D-CAD Competition**, *Category: ProEngineer - Advanced*, `http://www.3d-cad.at`, **1st Place**.
3D model and animation of the thesis *Automated Guided Vehicle*

2004 **ARGE 3D-CAD Competition**, `http://www.3d-cad.at`, **2nd Place**.
3D model and animation of a recreational vehicle

Computer skills

Languages	C, C++, C#, Python, Visual Basic, JavaScript, Java, NASM, Matlab, R
Libraries and SDKs	Direct3D, OpenGL, WebGL, Vulkan, MPI, OpenMP, BLAS, LAPACK, PLASMA, STL, Boost, SQLite, PythonAPI, FFmpeg, Havok Physics
Sw. engineering	UML, Doxygen, Javadoc, JSDoc, GIT, Apache Subversion
Software and tools	Visual Studio, Unity, Eclipse, GCC, GNU Make, LLVM, Flex, GNU Bison, Mathcad, Pro Engineer, Apache Tomcat, TortoiseSVN, WinSCP, PuTTY, Texmaker, GnuPlot

Languages

German	*Mother tongue*
English	*Oral and written expression: very good (TOEFL iBT score: 112)*
Dutch	*Oral and written expression: good*

Volunteer work

12.2013–04.2015 **Voluntary Fireman**, *FF Sittendorf*, `http://www.fw-sittendorf.org/`.