Sebastian Klaassen

Resume

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Objective

To secure a challenging position in research oriented software engineering.

Publications

Solving Communication-Intensive Problems Efficiently Using On-Chip Mesh Interconnection Networks

Thesis and ISC HPC 2016 Research Poster

Description	Design and simulation of a mesh-connected three dimensional array processor.
URL	`http://www.isc-hpc.com/isc16_ap/presentationdetails.htm?t=presentation&o=958&a=select&ra=personendetails`

Interactive Colormapping: Enabling Multiple Data Range and Detailed Views of Ocean Salinity

Publisher	ACM New York, NY, USA ©2016
URL	`http://dl.acm.org/citation.cfm?doid=2851581.2851587`

Scalability of Modern Scatterplot Visualizations for Large Image Datasets

Thesis

Description	Investigating scatterplot scalability both in terms of what is feasable (performance scalability) and what is reasonable (information scalability).

Scientific Collaborations

08.2017	**Oak Ridge National Lab**, *Invited Talk*, Data mining strategies for extracting material properties from scanning transmission electron microscopy images.
04.2017–08.2017	**Allen Institute for Cell Science**, *Design and implementation of an interactive viewer, optimized for perfoarmance and information scalability*.

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

2017   **Allen Institute for Cell Science**, Work Contract, http://www.allencell.org/.
Creation 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   **Los Alamos National Lab**, Internship, http://lanl.gov/, Los Alamos, NM.
1) Creation of a global view data analysis tool for in-situ exploration of large scale image databases.
2) Creation of an application for interactively designing color maps.

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

08.2008   **International Institute for Applied Systems Analysis**, Internship, http://www.iiasa.ac.at, Austria: Laxenburg.
Assistance with adopting the web interface to JasperReports.

08.2007   **International Institute for Applied Systems Analysis**, Internship, http://www.iiasa.ac.at, Austria: Laxenburg.
Preparation of environmental data for database upload.

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: 107)*

Dutch   *Oral and written expression: good*

Volunteer work

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