

Travis M. Whitaker

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EDUCATION

Bachelor of Science, Chemical Engineering
Rochester Institute of Technology, Rochester, NY, May 2016
Minor: Computer Engineering, Japanese Language

EXPERIENCE

Lead Software Engineer June 2013 - Present
Janssen Biotech, a Johnson & Johnson Company, Philadelphia, PA

- Lead team developing high-performance numerical data modeling and analysis software, principally leveraging novel database technologies.
- Maintain numerous large C and Haskell codebases.
- Design domain-specific languages for modeling industrial processes.
- Numerics optimization (GPU Programming, LLVM)
- Distributed computing (Data Parallel Haskell, MPI, Ceph)
- Implement graph database for process flow tracking and real-time fault detection.
- Extensive use of AWS.

Research Assistant

Summer 2012

Applied Electrostatics Laboratory, SUNY Oswego, Oswego, NY

- Conducted experiments investigating applications of electrospray ionization.
- Wrote software application in C for tracking individual particles to aid the analysis of high-speed footage of clouds of electrostatic particles produced via electrospray ionization.

SKILLS

Languages: C, C++, Haskell, 80x86 Assembly, ARM Assembly, AVR Assembly, Scheme, Python, R, Mathematica, MATLAB, \LaTeX , SQL, VHDL

Tools: Linux/BSD Userspace, Red Hat/Debian/Gentoo Systems Management, Git, AWS, Altera Quartus II, Xilinx ISE

Working knowledge of German and Japanese.

PROFESSIONAL INTERESTS, HOBBIES, AND PROJECTS

- *Resonator* – Library of Parallel Implementations of Common Engineering Numerics Routines, principally PDEs and Tensor-Valued Systems.
- *Octothorpe* – Cache-optimized thread-safe C data structures library.
- *libPOLY* – Portable real-time sound synthesis library.
- *FermiShell* – Small shell utility for solving chemical equations.
- Digital Signal Processing
- Computer Algebra
- Embedded Systems Programming
- High-Fidelity Audio
- Discrete Electronics

PROFESSIONAL ORGANIZATIONS

Computer Science House – Research & Development Director 2014-2015
American Institute of Chemical Engineering
American Mathematical Society
American Chemical Society
Association of Computing Machinery