Travis M. Whitaker

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EDUCATION

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

EXPERIENCE

Process Data Modeling Engineer   June 2013 - Present
Janssen Pharmaceuticals Research and Development, Philadelphia, PA
- Worked with 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, principally leveraging S88/S95 Recipe Framework.
- Numerics optimization (GPU Programming, LLVM)
- Distributed computing (Data Parallel Haskell, MPI, Ceph)
- Implement graph database for process flow tracking and fault detection.
- Extensive use of Amazon Web Services Cloud Computing Platform.

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, Python, R, Mathematica, MATLAB, LaTeX, SQL, VHDL

Coursework: Continuum Mechanics, Reactor Engineering, Materials Science, Analytical Techniques

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

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