Johnny Jacobs

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EDUCATION

University of Rochester — Rochester, NY
Bachelor of Science in Computer Science — **Expected May 2017**
Minor in Optical Engineering

- GPA: 3.8; Major GPA: 3.95
- Rochester Dean's List
- LANL Foundation Bronze Scholar award for Academic Excellence

PROGRAMMING LANGUAGES

Fluent in Java, C, Python, JavaScript, JQuery, CSS, HTML, Unix shell (bash, csh, etc.) Fortran. Proficient in MatLab and C++. Experience with Ruby, Prolog, Scheme (Lisp), and MySQL. Eager and able to learn new ones.

EMPLOYMENT HISTORY

Los Alamos National Laboratory, Computational Physics Division, Los Alamos, NM
Undergraduate Student Intern, May 2015 – current

- Sole maintenance (bug fixes, improvements, etc.) developer for a Fortran magneto hydrodynamics code. The code was developed by the lab itself and contains ~15k lines of code. It is about two-thirds Fortran 77 with the other third more recent add-ons and improvements using Fortran95. The code outputted data using the NetCDF format.
- Also migrated the project's primary source control from CVS (Concurrent Version System) to Stash (git-based)

Los Alamos National Laboratory, Earth and Environmental Sciences Division, Los Alamos, NM
Undergraduate Student Intern October 2012 – September 2014

- Created Java tool for visualizing sub-surface material plumes. These plumes were inputted using data output files dumped by a full-scale scientific simulation code. This tool was distributed for use at several other National Laboratories.
- Created a second similar, though simplified, tool using JavaFX-2 instead of Swing (just for comparison).
- Converted several Perl scripts to Python for use with a MySQL database.
- Co-authored a paper: Pre-site Characterization Risk Analysis for Commercial-Scale Carbon Sequestration
- Worked as a part-time intern during the 2012-2013 school year and a full-time intern the summers of 2013 and 2014.

VOLUNTEER ACTIVITIES

2010-13: Jemez Mountain Trail Run, 2015: Los Alamos Triathlon

AWARDS

National AP Scholar, National Merit Scholar Commended Student, National Honor Society

PROJECTS

- **Dota 2 Stats (DotaBuff Stats Extension)** – Published in the Chrome Web Store (also on GitHub). A chrome extension built using jQuery (JavaScript), HTML, and CSS. Takes stats from the website Dotabuff (which hosts stats for the game DotA 2) and displays them in a cool popup.
- **Othello – On GitHub**. A project for an Artificial Intelligence class. It involved making an Othello engine (algorithm that plays Othello, a board game). I took our current implementation which used negamax and alpha-beta pruning and rewrote it to use bitboards as well (64-bit number representations of the board) instead of an array-based board.

PUBLICATIONS

Zhenxue Dai, Philip H. Stauffer, J. William Carey, Richard S. Middleton, Zhiming Lu, **John F. Jacobs**, Ken Hnottavange-Telleen, and Lee H. Spangler. Pre-site Characterization Risk Analysis for Commercial-Scale Carbon Sequestration. Environmental Science & Technology. 2014, 48 (7), 5854–5861.

OTHER INTERESTS

Applied physics, applied chemistry, green energy, robotics, electric vehicles, engineering