Johnny Jacobs

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EDUCATION

University of Rochester — Rochester, NY

Bachelor of Science in Computer Science, Minors in Optical Engineering and German — **Expected May 2017**

- Major GPA: 3.97; Overall GPA: 3.84; Rochester Dean's List (6 of 6 semesters)
- LANL Foundation Bronze Scholar Award for Academic Performance, Leadership, Critical Thinking, Career Goals

PROGRAMMING LANGUAGES

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

TEACHING ASSISTANT HISTORY

Computer Science Department, University of Rochester — Rochester, NY

Head (Graduate) Teaching Assistant, **Dynamic Language & Software Development** — **August 2016 – December 2016**

- Main contact for a class of ~25 students, with office hours once a week
- Write, post, answer questions about, and grade all assignments

Undergraduate Teaching Assistant, Programming Language Design & Implementation — **August 2016 – December 2016**

- One of 5 undergraduate TAs; hold workshops twice a week; grade lecture quizzes and 2 of 5 major programming projects

INDUSTRY AND RESEARCH EXPERIENCE

Universität Paderborn — Paderborn, Germany

Student Researcher — **May 2016 – August 2016**

- Research related to Multi-Armed Bandit reinforcement learning problem
- Considered special case of aggregate bandits, and created simulations to test algorithm performance on this case

Laboratory for Laser Energetics, University of Rochester — Rochester, NY

Student Developer — **February 2016 – May 2016**

- Created a remote control panel for an instrument which interacts with the OMEGA laser using Java Swing.

Los Alamos National Laboratory, Computational Physics Division — Los Alamos, NM

Software Development Intern — **May 2015 – August 2015**

- Sole maintenance developer (bug fixes, improvements, updates) for a Fortran magneto-hydrodynamics code.
- Code was developed in-house and is ~15k lines. Two-thirds is Fortran 77 while the other third is more recent add-ons and improvements using Fortran 90. Outputs data in NetCDF format.

Los Alamos National Laboratory, Earth and Environmental Sciences Division — Los Alamos, NM

Software Development Intern — **October 2012 – September 2014**

- Developed Java Swing tool for visualizing movement of CO_2 plumes. Tool was distributed to several other national laboratories.
- Created similar tool using JavaFX-2 instead of Swing, for comparison.
- Co-authored a paper: Pre-site Characterization Risk Analysis for Commercial-Scale Carbon Sequestration

SOFTWARE PROJECTS

- **Dota 2 Stats (DotaBuff Stats Extension)** – Chrome extension built using jQuery (JavaScript), HTML, and CSS. Takes stats from website Dotabuff (which hosts stats for the game DotA 2) and displays in popup. Published in Chrome Web Store (also on GitHub).
- **Personal Website –** Acts as an all-encompassing online resume, transcript, and cover letter. Built from scratch using HTML and CSS. Coded by me, hosted by GitHub.
- **Java Concurrency –** Program that creates minimum spanning tree and Delaunay triangulation for a set of points which represent a complete graph. Turned original serial implementation of these algorithms into a parallel implementation.
- **Compiler Series –** A set of three projects outlining the core functionality of a compiler. Included a scanner/parser/interpreter written in C++ with error handling, a scanner/parser/interpreter written in OCaml with equivalent C-code generation, and a cross-indexer written in Ruby which creates a series of html pages linking identifiers to declarations.

VOLUNTEER WORK

2016: Computer Science Undergraduate Council Tutor
2015: Los Alamos Triathlon
2010-13: Jemez Mountain Trail Run