Johnny Jacobs

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EDUCATION

University of Rochester — Rochester, NY
Master of Science in Computer Science — **Expected May 2018**

University of Rochester — Rochester, NY
Bachelor of Science in Computer Science, Minors in Optical Engineering and German — **May 2017**

- Magna cum laude; highest distinction in computer science
- LANL Foundation Bronze Scholar Award for Academic Performance, Leadership, Critical Thinking, Career Goals

PROGRAMMING LANGUAGES

Fluent in Java, C, Python, Ruby, PHP, CSS, HTML, and Unix shell (bash, csh, etc.). Proficient in C++, Fortran, JavaScript, JQuery, and MatLab. 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 Teaching Assistant, **Dynamic Language & Software Development** — **August 2016 – December 2017**

- 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

Yodle — New York City, NY
Software Developer Intern — **May 2017 – August 2017**

- Worked as a full member of the search engine marketing team.
- Two-week agile scrum sprints allowed me to help out with many different projects.

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 — 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 — Los Alamos, NM
Software Development Intern — **October 2012 – August 2015**

- Sole maintenance developer (bug fixes, improvements, updates) for a ~15k line Fortran magneto-hydrodynamics code.
- 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

- **Parallel Othello –** An Othello engine that uses bitboarding and is distributed and parallel; written using C++. The parallel version was done using thread pools, and the distributed version with open-mpi (C signaling package).
- **Challenge Channel** – Group website CRUD project supporting custom x-day challenges. My role was handling the backend using PHP and a MySQL database, as well as adding ajax functionality using jQuery.
- **Ruby C Extension** – A hashtable for Ruby written in C. Written from the ground up using Ruby object_id as the hash function. Speed of reads/writes were compared with a similar hash table written in pure Ruby, as well as the built-in Ruby Hash class.
- **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