

Andrew Schwartzmeyer

Software Development Engineer

Experience

- May 2014 - **Software Development Engineer Intern**, *Microsoft Corporation*, Redmond, WA.
Aug 2014 UNIX and Linux C and C++ programmer for the Open Source Technology Center's Windows Server and System Center Cross-Platform Interoperability team. I developed open source providers for the Open Management Infrastructure stack across a matrix of 41 different platforms, utilizing and contributing to a Platform Abstraction Library, including the extension of the unit test framework.
- Jan 2014 - **Computer Science 120 Lab Teacher**, *University of Idaho*, Moscow, ID.
May 2014 Introduction to Programming with C++ Lab Teacher and Computer Science Assistance Center tutor. I taught four hours (two lab sessions) of weekly labs to about forty students, and provided individualized help in our CSAC six hours a week.
- Oct 2012 - **Software Engineer Intern**, *Schweitzer Engineering Laboratories, Inc.*, Pullman, WA.
Dec 2013 Linux software engineering intern with the software tools group in the automation department. I designed and created a system to integrate issue information from Mercurial changesets into an IBM Rational ClearQuest database. I also re-factored a PDF code review generation tool to use cross-platform libraries in Python, and wrote various Puppet modules.
- June 2011 - **Network Engineer**, *JLComputers, LLC*, Spokane, WA.
June 2012 System administrator of numerous small to medium sized business networks where I transitioned customers' obsolete networks to Windows Server 2008 domain environments, planned and deployed enterprise-scale employee monitoring software discreetly and quickly, and directed migrations from Microsoft Exchange servers to Google Apps hosted services.
- 2008 - **Open Source Software Contributor, Evangelist, and Hobbyist.**
Present I administer my own servers using a homebrewed automation system centered around Puppet. I have also published several modules on the Puppet Forge, and am an active contributor to many other modules and various projects I find interesting.

Skills

- Knowledge of collaborative and agile software development practices using Git, Mercurial, and other version control systems with continuous integration using Jenkins and internal build and test systems.
- Utilized the Boost C++ Libraries, C++11 threading and pseudorandom number generation libraries, and the GNU Build System including both Autoconf and Automake tools.
- Developed, tested, and packaged cross-platform software for multiple Linux distributions including Arch Linux, Debian, Ubuntu, RHEL, SLES, OpenSUSE, and CentOS; Mac OS X; and UNIX operating systems including Solaris, AIX, and HP-UX.
- Proficient with: C++, C, Python, Puppet DSL, Bash, SQL, PL/pgSQL, and \LaTeX
- Experience with: Java, Ruby, Assembly, Common Lisp, and Perl
- Interested in: Rust, Haskell, Scheme, and Clojure

Projects

- Acted as technical lead for *EvolvedTD*, a tower defense video game where the "creeps" evolve in response to their environment. Implemented a diploid additive quantitative genome, with a developer-friendly trait interface. Performed a detailed analysis to resolve the project's memory leaks.

📞 208.462.0314 • ✉ andrew@schwartzmeyer.com • 🌐 schwartzmeyer.com

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- Created a compiler in C using Flex and Bison for a subset of C++, including basic classes. Wrote and published a generic, doubly linked circular list library and a dynamically expanding hash table library, unit tested with my own C unit test framework.
- Implemented genetic programming algorithms in C++11 for optimization problems including the Santa Fe Trail and various mathematical test functions, and for performing data analysis using symbolic regression.
- Exploited for educational purposes in a lab setting vulnerabilities including buffer overflow, uncontrolled format string, SQL injection, and cross-site forgery requests.
- Studied cryptography with coding theory, including symmetric and asymmetric encryption schemes, public key algorithms, and security protocols. Also studied communication and networking systems, including wired and wireless transmission protocols, TCP/IP, and error correction codes.
- Experience with development operations engineering and automation of server configuration deployment and management using Puppet and other tools.

Education

Fall 2011 - **B.S. Mathematics and B.S. Computer Science**, *University of Idaho*, Moscow, ID, 3.5.
 Spring 2015 Dean's List

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|----------------------------------|------------------------------|-----------------------------------|
| ○ Compiler and Translator Design | ○ Data Communication Systems | ○ Complex Variables |
| ○ Artificial Intelligence | ○ Computer Operating Systems | ○ Multivariable Calculus |
| ○ Evolutionary Computation | ○ Abstract Algebra I and II | ○ Ordinary Differential Equations |
| ○ Database Systems | ○ Numerical Methods | ○ Theory of Computation |
| ○ Information Assurance | ○ Cryptography | ○ Linear Algebra |

Achievements and Roles

- Mar 2015 Founding President of the *Pi Mu Epsilon Idaho Alpha* mathematics honor society
- Nov 2014 Participated in the *International Collegiate Programming Contest*
- May 2014 President of the *UI Association for Computing Machinery* chapter
- Mar 2014 Team "Climbing the Stack" at *Eastern Washington University's Programming Competition*
- Dec 2014 Participated in *William Lowell Putnam Mathematical Competition*
- Oct 2013 Team "Big θ " at *Washington State University's Hackathon*
- Sep 2013 "Transcendental Geometer" (secretary) of the *UI Math Club*
- May 2012 Secretary of the *UI Association for Computing Machinery* chapter
- Dec 2012 Participated in the *International Collegiate Programming Contest*
- Feb 2010 Named Post Falls High School Class of 2010 Valedictorian with high school GPA of 4.33

References Available Upon Request

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