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Personal Statement

I am a software developer and musician residing in Gainesville, FL. I love daydreaming, learning, and creating, and programming is one of those creative outlets that I enjoy alongside playing my cello, electric bass, baritone ukulele, and electronic gadgets.

I got started programming on a TI-86 graphing calculator, moved on to assembler, VHDL, C, C++ and Java for my undergraduate degree and then a big collection of technologies that I've learned in the course of learning to design, implement, and maintain web applications. The majority of my experience lies in using Linux, Apache, PHP, and MySQL. I like to use Ruby for writing web applications and for batch processing and other command-line uses. For fun, I've learned Erlang and Lisp and managed to wrangle myself into positions where I can use them for school projects. That curiosity has led me to my current job where I often write in Clojure (a Lisp dialect written for the Java virtual machine). I also spend a good deal of time maintaining and extending Ruby on Rails applications.

I finished my bachelor's degree just around the time that classes started getting really interesting. I spent a year in the field, and realized that I missed the constant opportunities to learn and apply new concepts that I had in school, so I applied for and completed an MS program. I spent my time learning about the AI and computer architecture fields, and managed to earn a minor in music along the way. While in grad school, I taught myself Erlang and Common Lisp and used these languages to solve open-ended semester projects.

Technologies

Current favorites: vim, linux, lisp, erlang, jquery, emacs, ruby, clojure, git, python
Others: php, mysql, apache, subversion

Experience

Software Developer at LeadTune
2010 - Current

Technologies: clojure, ruby-on-rails, mongodb, mysql, emacs, git

At LeadTune, a marketing lead appraisal company, I work primarily on a Clojure application and also spend a little time working on the front-end Ruby on Rails application. My contributions have included writing a multi-threaded Clojure component, wrestling with Java I/O, integrating Amazon S3 support, and converting a monolithic Ruby and Clojure application into a Fault-tolerant and scalable distributed system. My coworkers are brilliant and committed software developers and machine intelligence experts and I've learned a great deal from them so far.

Software Developer at Conceptual Arts, Inc.
2007 - 2010

Technologies: php, mysql, linux, apache, ruby, jquery, javascript, htm, css, flash

Sole developer and (at times) lead programmer for a very small but very talented software consultation company with more than a decade of experience and several long-term government-funded web projects. I typically worked solo, though we did hire part-time help when deadlines crept up and work loads intensified.

Since Conceptual Arts is such a small company, we all had to learn to do a bit of everything. In addition to doing practically all coding, I participated in meetings with clients, assisted in writing proposals, interviewed and hired assistant programmers, maintained the local network and development server and performed phone and email technical support for our projects.

Software Developer III at Gleim Publications
2006

Technologies: linux, apache, mysql, php, delphi

At Gleim Publications, I was quickly promoted to the highest ranking developer position available within the

company due to my strong verbal and written communication skills and my interest and skill at managing projects and small teams of programmers. While at Gleim, I worked to maintain a Windows application written using Delphi (an object-oriented descendant of Pascal) and also maintained a dozen or so web applications.

Lab Assistant at University of Florida Infrared Astrophysics Group
2004 – 2005

Technologies: visio, electronics hand tools and components

Part and cable documentation for CanariCam and FLAMINGOS2 telescope instruments. Electronics chassis layout and construction. Co-author on: FLAMINGOS-2: The Facility Near-Infrared Wide-field Imager & Multi-Object Spectrograph for Gemini, a technical report published by the University of Florida Astronomy department.

Selected Coursework

Fault tolerant, distributed, and embedded computer architecture with Dr. George, Dr. Fortes, and Dr. Gordon-Ross.

- Collaborated in adding SMT for fault-tolerance support to Simple Scalar simulator .
- Implemented algorithm for evolving an efficient communication network in an unstructured peer-to-peer system using Erlang.
- Performed extensive literature review of embedded computer architecture field.

Artificial Intelligence coursework with Dr. Dankel and Dr. Arroyo Fall 2009 and Spring 2009.

- Designed a Numbrix puzzle game solver and implemented in Lisp.
- Implemented a Nilsson genetic programming algorithm in Lisp.
- Studied traveling salesman problem and wrote a Lisp implementation with some optimizations to reduce execution time inherent to permutation-based approach.
- Studied natural language processing and wrote Prolog code to demonstrate understanding.

Parallel Computer Architecture under Dr. George spring 2008.

- Partial port of the Intel MPI Benchmarks to Erlang.
- Study of Erlang's suitability as a language for use in high performance and parallel computing.

Computer Architecture under Dr. Gordon-Ross fall 2007.

- Design of a pipelined instruction set simulator. Elected to write it using Lisp.

Digital Design under Dr. Schwartz fall 2005.

- Extensive VHDL design, Register Transfer Logic, VGA and PS/2 keyboard driver design, 8-bit processor design.
- Microprocessor Applications under Dr. Gugel spring 2004.
- Interfacing a 16-bit processor with external memory and I/O devices.
- Extensive assembly language design.

Skills

Administration

- Project and team management.
- Technical interview experience.
- Personnel decisions.
- Testing and quality control coordination including bug database, version control system, code review, and standards-enforcing decisions.
- Responsible for inter-departmental communications.
- Direct customer interactions and project administration.
- Proposal-writing assistance.
- Technical presentation experience.

Lisp

- Common Lisp and Clojure experience.
- Learned Lisp via an extensive solo six-month school project.
- Experienced using the Emacs SLIME development environment.
- Some exposure to the Scheme dialect.

Erlang

- Experience writing parallelized algorithms for use in many-core SMP machines.
- Experience designing, testing, and deploying a distributed application that can run within a cloud environment.
- Experience porting MPI code to Erlang.
- Learned Erlang via an extensive six-month school project.
- Utilized Erlang in additional school projects.

C

- Experience writing programs that exploit concurrency.
- Wrote a small distributed file management system using a variant of Sun RPC.
- Used MPI and UPC as part of a course on parallel computing.

Web Programming

- Proficient with HTML, CSS, and JavaScript.
- Proficient with jQuery JavaScript library.
- Ajax and dynamic HTML experience.
- Server-side applications experience with PHP and Ruby on Rails.

PHP

- Modern, secure, object-oriented design using PHP5.
- Experience with the MVC framework symfony.
- Test-driven design using PHPUnit.
- Project and testing coordination and group management experience.

Ruby

- Actively use Ruby in a role traditionally held by Perl.
- Experience maintaining and extending Ruby on Rails sites.
- Experience writing a collection of one-off utility scripts, HTML parsers and analyzers, and other small and self-contained applications.

SQL

- Professional experience writing, reviewing, and maintaining MySQL-driven applications.
- Some MySQL database administration experience.

Linux

- Self-taught Linux home user.
- Self-taught Debian Linux development server administrator.
- Familiar with a wide range of GNU/Linux tools.
- Proficient with Vim and Emacs editors.
- Actively use many command-line tools as part of development, project management, and product deployment.
- Setup and maintenance of Debian Linux development server with a strong emphasis on security.
- Experience with Apache, MySQL. Some experience with Samba and Tomcat.
- Experience setting up Rsyslog clients and servers.

Flash

- Flash and ActionScript programming.
- Programmed interactive online course materials.

Delphi

- Maintained, modified, and guided release of a line of globally distributed Windows desktop applications.
- Experience with Delphi 6 IDE.

Java

- Extensive coursework covering object-oriented design principles, networked applications, and 3D modeling and simulation.
- Some Tomcat administration experience.

Digital Design

- Designed, debugged, tested, and demonstrated numerous designs built using IC components.
- Proficient in Assembly language programming techniques and VHDL design.
- 68HC12, MIPS, and MSP430 instruction set experience.
- Proficient with electronics hand tools.

Music Technology

- Experience with digital audio, synthesis, electronic music composition and recording technology.
- Used Max/MSP, hardware synthesizers, and various software applications in composing electronic music works.
- Completed two-course sequence of classes at the UF Electroacoustic Music Studio to earn music minor.
- Frequent performer and sound technician at events curated by Electronic SubSouth, Action Research, and Future Music Society.

Communication

- Extensive experience preparing professional technical documentation.
- Collaborated in writing proposals that successfully secured six-figure multi-year government-funded contracts.
- Fluent in English and Spanish.

Other Skills

- Version control with Git and Subversion.
- Subversion/Trac setup and administration.
- Basic networking and hardware troubleshooting skills.

Honors and Awards

UF Graduate Grant recipient, Spring 2010.

- Invited to perform at University of Florida Unbalanced Connection concert series, Fall 2008.
- Photography selected for exhibition in the University of Florida Reitz Union Gallery.
- Florida Bright Futures 100% tuition scholarship.

Public Service

English tutor at South Florida Community College.

Assistant for Highlands County Community Outreach program for at-risk teen populations.

Organizations

Performer at many concerts curated by Electronic SubSouth, Action Research, and Future Music Society music collectives 2007 – 2010.

University of Florida Symphonic Orchestra 2002 – 2005.

South Florida Community College Orchestra 1998 – 2002.