

OBJECTIVE: To obtain a lead/senior position in the field of software development or management, which allows me to utilize both my technical and leadership skills.

QUALIFICATION SUMMARY: I have extensive experience developing software and problem solving. At both Microsoft and Yahoo, I have developed high performance, high traffic web-based server products. At Energy Innovations and through FIRST I have worked on low-resource embedded systems. I've also held many leadership roles, including $2\frac{1}{2}$ years as a manager. I learn new skills quickly and have a variety of interests.

EDUCATION: **Carnegie Mellon University** Graduated (B.S.): May 1998
Pittsburgh, PA

- Major: Electrical and Computer Engineering
- Minor: Computer Science

COMPUTER SKILLS: Primary Languages: C, C++, Perl
Additional Languages: Java, LISP, Scheme, LabVIEW, Pascal
Operating Environments: Linux, Unix, Mac OS X, Windows 2000 / XP / Server 2003 / Vista

PROFESSIONAL EXPERIENCE: **Contractor** November 2009 - present
Open42, (stealth-mode start-up), Los Angeles, CA

Technologies used: Linux, Apache, MySQL, Perl (LAMP)

Senior Development Engineer June 2008 – September 2009
Energy Innovations, Pasadena, CA

- Sunflower HCPV (High Concentration Photo-Voltaic)
 - Designed and developed the software for the Tracker Control System
 - Implemented a two-axis stepper motor controller with quadrature optical encoders
 - Implemented a multi-module controller including
 - ZigBee communication layer
 - Multiple open-loop sun location algorithms
 - Power-based closed-loop sun tracking
 - Maximum Power Point Tracking control of DC-DC Converter
 - Designed PC control system including
 - Weather monitoring
 - Logging and data storage in SQLite3
 - Web-based interface for control and monitoring
 - Assisted in development of electronic control boards
 - Selected microcontrollers
 - Reviewed schematics
 - Identified hardware bugs

Technologies used: C, ZigBee, SQLite3, PIC Microcontrollers, svn, L^AT_EX

Engineering Manager September 2005 - May 2008
Yahoo Search Marketing, Yahoo Inc, Burbank, CA

- Domain Match
 - Managed full time employees, interns and contractors
 - Acted as “scrum master” for our agile development team

- Actively participated in design, architecture and code reviews, and had “final say” on architecture and code changes to the front-end server
- Worked closely with Product/Project Management and Quality Assurance teams to coordinate development and release schedules
- Responsible for delivering a high quality build to QA every other week
- Launched an updated product every other week, achieving 100% on-time launches, and a record one production bug in 2006 and zero production bugs in 2007
- Responsible for 40-50 projects per year including developing new small and large features, researching technologies for future projects, improving performance, requesting new hardware and generating reports to evaluate our product quality
- Promoted a culture of excellence in development, including design and code reviews, documentation and unit tests; when code is handed to QA, it is expected to be bug-free
- Helped grow the team to twenty developers

Technologies used: Perl, Apache, XML, Berkeley DB, CDB, svn, Bugzilla

Senior Developer

January 2004 - September 2005

Yahoo Search Marketing, Yahoo Inc, (formerly Overture), Pasadena, CA

- Domain Match
 - Developed new tokenizing and matching algorithms to significantly improve the relevance of results returned.
 - Significantly improved the performance of the product in terms of CPU load, response time and sustainable queries per second.
 - Mentored summer interns.
 - Served as team lead in the absence of our regular lead.
 - Interviewed candidates for Domain Match, Sponsored Search and Content Match, and helped improve the interviewing process
 - Helped develop consistent coding style guidelines used by both DM and SS
 - Helped grow the team from two developers to seven

Technologies used: Perl, Apache, XML, Berkeley DB, CDB, svn, Bugzilla

Software Design Engineer

July 1998 - March 2003

Microsoft Corporation, Redmond, WA

- SharePoint Team Services version 2
 - Developed the STS migration tool, `smigrate.exe`, which migrates sites from STS v1 to STS v2, or between two different STS v2 sites.
 - Designed the FWP file format, which is a CAB file with an XML manifest describing the contents of the site.
 - Designed and developed many of the core classes used by `smigrate`, FrontPage Solution Packages, STS Web Templates for creation and deployment including a CAB file reader and writer and XML manifest parser
 - Designed the algorithm used for backing up sites, and for deploying them

Technologies used: C++,

- SharePoint Team Services version 1 / FrontPage 2002 Server Extensions
 - Developed FPSE/STS's handling of Thicket and MHTML files, including parsing, copying, moving, renaming and link fixup.
 - Maintained the Unix build of FrontPage Server Extensions, including
 - Fixing Unix-only build breaks

- Maintaining the Unix build machine
- Coordinating drops of the FrontPage Server Extensions source code to Ready-To-Run Software
- Integrating patches from Ready-To-Run Software, to ensure that FrontPage Server Extensions continues to build and run on all supported flavors of Unix
- Coordinated with the Windows team to deliver drops of FrontPage 2002 Server Extension, and to ensure that FPSE continues to install and run on the latest build of Windows
- Maintained FrontPage's component in Windows' Object Component Manager (OCM) which allows FrontPage Server Extensions to be installed via the Windows "Add/Remove Windows Components" menu
- FrontPage 2000
 - Developed and maintained portions of FrontPage's Microsoft Management Console (MMC) component, used to configure and manage FrontPage Server Extensions.
 - Coordinated with the Windows team to deliver drops of FrontPage Server Extensions 2000, and to ensure that FPSE continues to install and run on the latest build of Windows
 - Developed and maintained FrontPage's component in Windows' Object Component Manager (OCM) which allows FrontPage Server Extensions to be installed via the Windows "Add/Remove Windows Components" menu

Software Design Engineer Intern

Summer 1997, Summer 1996

Microsoft Corporation, Redmond, WA

- Windows NT GDI/OpenGL
 - Wrote an interactive OpenGL profiler for developers
 - Wrote a scripted version of the OpenGL profiler to be used in a configuration tool
- Microsoft Project
 - Wrote utility for developers to find memory leaks in MS Project
 - Coded and tested the MS Project '98 viewbar, a portion of the user interface

ADDITIONAL EXPERIENCE:

F.I.R.S.T. Robotics

2000 – Present

- Mentored students at multiple high schools, and on multiple teams to design and build a 5-foot-tall, 120 lbs robot in 6 weeks to play that year's game. Robots must operate both autonomously and under remote control. Game challenges have included:
 - collect soccer balls and placing them into mobile goals
 - collect and stack plastic bins
 - collect large rubber balls, climb stairs and hang from a 10' bar
 - manipulate PVC tetrahedrons
 - shoot Poof balls into a 10' high goal
 - collect and hang innertubes on a central rack.
- Taught students to use industry-standard tools such as CVS, Subversion and make.
- Used a PIC embedded microcontroller to implement control system, including PID loops, inertial motion tracking using gyroscopes and dual axis accelerometers, and dead reckoning based on optical encoders; taught students about each of these techniques.

HOBBIES AND INTERESTS:

Toastmasters, Personal MBA, Martial Arts, Filmmaking, Animation, Soccer, SCUBA diving, Skydiving, Floor Hockey, Caving, Chess, Amateur Radio (Tech Plus class, licensed since 1991), Fozzball, Juggling, brother of Alpha Epsilon Pi