



# **SAM UMBACH**

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919-698-2436

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## **SUMMARY**

Detail-oriented software engineer with extensive experience in network applications. Enthusiastic student of new technology with a track record of successfully establishing policies and standards within organizations. Experienced designer and analyst with excellent communication skills complementing comprehensive knowledge of networking, databases, storage and operating systems. Adaptable and ambitious with interest in mentorship and project management.

## **EXPERIENCE**

### **SOFTWARE ENGINEER**

June 2007 – Present

Electronic Arts, Morrisville, NC

Video game developer with specialization in animation, optimization, and process improvement.

- Shipped three titles (NASCAR 09 PS2, NSACAR Kart Racing Wii, and EA Sports MMA PS3/XBox 360) with two more in post-production (Madden NFL Football Nintendo 3DS and FIFA 2011 Nintendo 3DS)
- Ported, optimized, and improved animation runtime libraries for PS2, Wii, XBox 360, PS3, and 3DS
- Maintained and improved desktop animation tools for PC in C#, C++, and Managed C++
- Optimized for speed and cache efficiency, rewriting problematic routines in PowerPC and ARM assembly
- Optimized for memory usage; identified and eliminated memory fragmentation
- Worked with numerous other game subsystems, including networking, database, user interface, physics, rendering, and audio
- Created a unit testing framework for gaming consoles to run within EA's continuous integration system
- Automated source control interaction, asset export and build, and repetitive and error-prone procedures within artist tools
- Contributed extensively to EA's shared source projects; improved procedures for game teams to contribute changes and avoid unnecessary code forking
- Led the charge for continuous improvement, identifying inefficiencies and working with the appropriate EA teams to improve the process for all parties

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## COFOUNDER

August 2008 – Present

reviewshine.com, Durham, NC

Assisting independent music artists promote their releases through publicity on music blogs

- Delivered over 12,000 promotional copies in our first year of operation, saving artists over \$35K in material and shipping costs and **nearly 20 tons of Carbon Dioxide emissions**
- Turned a profit in the month of our first sale and each month thereafter
- Controlled costs and development time by using off-the-shelf components and free or inexpensive web services including GitHub, Lighthouse, and Hoptoad
- Applied test-driven development and agile methods to deliver a high-quality web application on a Ruby on Rails/MySQL/Apache/Linux stack

## SOFTWARE ENGINEER

January 2007 – May 2007

Raritan Computer, Raleigh, NC

Web application developer and Linux systems integration specialist

- Developed Java servlets (version 2.4) and JSP (version 2.0) for deployment on Apache Tomcat 5
- Wrote Java bindings for rrdtool using JNI (Java Native Interface)
- Added thread-safe versions of several rrdtool library functions
- Authored spec files and built rpm packages for proprietary and open source software; these specs include application of source patches and install/uninstall triggers
- Created modular RAID rebuild library using Python and mdadm including plugin support, making it simple to integrate into multiple products and eliminate several rebuild scripts
- Internationalized Java and JSP code using locales and properties files; internationalized Perl code using GNU gettext
- Maintained and improved a complex build system including Ant, Maven, rpmbuild, and GNU Make
- Adopted agile methodologies including test-driven development using junit and pyunit

## SENIOR SOFTWARE ENGINEER

January 2004 – December 2006

SciMed Solutions, Durham, NC (subsidiary of Net Friends)

Responsible for development, systems integration, and build infrastructure for commercial software products.

- Technical designer of CardioWifi 802.11b/g wireless ECG capture device
- Authored network protocol for CardioWifi and CardioServer cardiology management system
- Implemented this protocol in C++ and Java (J2SE 1.4 and 1.5/5.0)
- Simplified the CardioServer installation process with an InnoSetup-based installer
- Led redesign and implementation of WebPAX cardiology image archiving system in Perl
- Performed technical sales duties for CardioServer and WebPAX products
- Developed custom modules for Microsoft Dynamics CRM with C#/ .NET 1.1 and 2.0

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## **SENIOR NETWORK SUPPORT SPECIALIST**

June 2003 – December 2006

Net Friends, Durham, NC

Systems and network administrator for Duke Cardiovascular Magnetic Resonance Center (DCMRC) and Net Friends.

- Researched and provided purchase recommendations for storage, network and software
- Installed, configured, and managed multi-vendor iSCSI Storage Area Network (SAN)
- Interfaced with Microsoft SQL Server 7.0, 2000, and 2005; Oracle 8, 9i, and 10g; MySQL 5; and FileMaker 7 and 8 database

## **SOFTWARE DEVELOPER**

April 2001 – May 2003

Palisade Systems, Ames, IA

Responsible for the PacketPup line of products providing network protocol monitoring and filtering from a Windows GUI.

- Developed networking software in C/C++ on FreeBSD and Windows platforms
- Ported existing code from FreeBSD to Windows, moving three products to the same code base
- Developed testing infrastructure including a Visual Basic program to automate testing from specifications and test plans in Microsoft Excel spreadsheets
- Acquired in-depth knowledge of Ethernet and TCP/IP including bridging, routing, redirection/NAT and network protocols

## **EDUCATION AND PROFESSIONAL DEVELOPMENT**

- B.S., Computer Engineering & Mathematics, Iowa State University, 2003
- MySQL Performance Tuning and Optimization, MySQL AB, 2005
- Software Development Best Practices, Dr. Dobb's SD Events Group, 2006
- Game Developers Conference, 2008
- Triangle Game Conference, Triangle Game Initiative, 2010

## **OTHER**

- Healthcare industry background: Health Insurance Portability and Accountability Act (HIPAA), Health Level 7 (HL7), Digital Imaging and Communication in Medicine (DICOM)
- Eagle Scout, Boy Scouts of America, 1997