David C Wang

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OBJECTIVE

Full-time position in software engineering management and technical leadership.

EDUCATION

Massachusetts Institute of Technology **Cambridge, MA**

Bachelor of Science degree in Electrical Engineering and Computer Science (6-2).

EXPERIENCE

Technical Program Manager **Premier Retail Networks** **San Francisco, CA**

Summer 2005 - Current. Premier Retail Networks is the world's largest in-store video advertising network. My position is part product manager, part project manager, and most of all… lead engineer. Worked on all in-store aspects of the network, including content distribution, playback, device control, monitoring, and reporting.

- Manager of offshore development resources to achieve software engineering tasks.
- Lead the prototype effort for the world's first in-store IPTV video streaming solution, and oversaw it through implementation, productization, and deployment into thousands of Walmart stores.
- Managed all Walmart software maintenance releases since 2009, each of which applies to thousands of stores with 10+ unique configurations. Negotiated with cross-functional teams to balance customer demands, risk, and available resources to deliver quarterly software updates to customers.
- Drove inter-departmental improvements to software engineering processes and tools. Processes included build and release processes, as well as issue lifecycle. Tools include migration to Perforce, and the prototyping and transition to the issue management system Jira. Implemented a standard virtualization platform shared among technical departments to speed development and testing. An example benefit besides obvious hardware savings is that new hires can be spun up quickly by cloning developer, build, and test machines.
- Traveled occasionally to customer headquarters to represent PRN and resolve high-priority technical issues. Traveled to partner companies to work on current and future product features and roadmaps.

Wireless Engineer **Aruba Networks** **Sunnyvale, CA**

Fall 2002 – Summer 2005. Aruba is an enterprise-class wireless solution company. The products consist of high performance L2/L3 switches integrated with 802.11 thin access point wireless technology.

- Independently conceived of, designed, implemented, and tested an x86 Linux-based virtualized access point platform to cost-effectively emulate hundreds of Aruba hardware APs for scalability testing. Implemented the entire project, including building cross-compilation tool-chains and embedded libraries, patching an architecture specialized mips-only kernel to run as x86 user-mode-linux, resolving kernel and userspace byte order issues, and integrating the platform into the software build system. Successfully resolved all hardware dependencies via software implementation, which include emulating the hardware flash device, writing a virtual wireless driver, and emulating the ethernet and bonding devices. (Makefile, C, Linux Kernel Programming, Linux Device Drivers, Perforce).
- Independently responsible for the quality assurance of the air-management, air-monitoring, and policy-enforcement features of the wireless solution. Provided guidance on air-management algorithms and product feature set. Independently designed and implemented an automated test infrastructure which condenses weeks of manual testing into nightly runs. Wrote object–oriented Perl libraries to simplify and speed the development of test programs. Modified the Linux Atheros madwifi kernel driver to allow the precise generation of arbitrary radio packets, while setting parameters such as frame rates and preambles. Wrote packet generator tools for sales engineers to demonstrate features of the solution. (802.11 Link-Layer, Object-oriented Perl, Shell Scripting, Makefile, Perl Expect, Cisco CLI, VLANs, C, Linux Kernel Programming, Perforce).

Wireless Engineer **Instant802 Networks (now Devicescape)** **San Francisco, CA**

Summer 2001 - Summer 2002. Principal software engineer of the OpenAP open-source project which replaced the firmware of commodity 802.11b access points with an open-source embedded Linux operating system.

- Created a custom build environment and custom Linux distribution, which runs on SMC/UsRobotics access points with 1MB of flash ROM and 4MB of RAM. Experienced with embedded libraries, utilities, and linking issues. Current features include dhcp client, boa web server, pcmcia-utils, bridge-utils, wireless-tools, and standard 802.11 access point services. Modified 802.11 wireless drivers to implement multipoint-to-multipoint wireless bridging. Presented and released most work to the open-source community at the Bay Area Wireless Users Group. (C, Linux Kernel Programming, 802.11 Link-Layer, Bridging, Embedded Systems, Embedded Libraries and Utilities, Shell Scripting, Makefile, CVS, Custom Build Environment).
- Member of a team engineering enterprise-class wireless LAN management software based on the Windows .Net platform. Wrote the backend system for the management of enterprise wireless networks, which allows for real-time user monitoring, troubleshooting, auditing, configuration, and management of wireless access points in addition to the identification of unauthorized wireless entities. (C#, .Net Framework, Visual Studio .Net, Visual SourceSafe, SNMP).

IP Technical Consultant **Wolf, Greenfield & Sacks** **Boston, MA**

Spring 2001. Consulted for intellectual property law firm Wolf, Greenfield & Sacks involving case Cabletron vs. NxNetworks. Evaluated software patents and C++ source code for internet routing devices and formed court-presented opinions on patent violations. (C++, Network Systems).

Software Engineer **Akamai Technologies** **Cambridge, MA**

Fall 1998 - Spring 2001. Akamai is a distributed and global internet content & application delivery company.

- Developed software to monitor thousands of servers across the Akamai distributed network for numerous internet services, such as web object hosting and multimedia streaming. Designed and implemented a multi-threaded, C++ monitoring agent that reports real-time network status and Akamai QoS performance to the network operations command center. Performed network socket programming on both the client and server sides.
- Lead the development effort to manage the configuration and scheduling of monitoring tasks on thousands of monitoring agents. Designed and implemented a scheme that intelligently derives agent configurations from minimal database-stored information.
- The monitoring agent has been deployed on thousands of servers, and provides data used for the derivation of critical alerts and troubleshooting of Akamai system components. These efforts have saved millions of dollars through elimination of company dependence on third party monitoring. This work has become a critical component of revenue generating services such as EdgeSuite and Firstpoint. (Linux, C++, C, Perl, Java, Multi-Threaded Programming, Sockets, CGI, DBI, SQL, mySQL, Perforce, CVS, Network Programming, Knowledge of Network Systems).

Software Researcher **MIT Lab for Computer Science** **Cambridge, MA**

Summer 1998. Worked in a research group under Professor Tom F. Leighton, founder of Akamai Technologies. Helped develop a large-scale distributed caching system for reducing network traffic and eliminating network bottlenecks. Wrote Perl and C programs for client machines to simulate network traffic and send real-time status data to network monitoring servers. Demonstrated the feasibility of technologies used in startup company Akamai Technologies. (Unix, C, Perl).

SKILLS

C++, C, C#, Perl, Java, Java Swing, Scheme, Linux Kernel Programming, .Net Framework, Multi- Threaded Programming, Sockets, Shell Scripting, Makefile, gcc, Object-oriented Perl, STL, PHP, HTML, CGI, DBI, SQL, mySQL, msSQL, Expect, SNMP, LaTeX, Unix, Linux System Administration, Win9x/NT/2000/XP/.Net, MS-DOS, Cisco CLI, CVS, Perforce, Visual SourceSafe, Visual Studio .Net, Embedded Systems, uCLibc Embedded Libraries, Busybox Embedded Utilities, Network Programming, Layer 3 Network Systems, Layer 2 Network Systems, 802.11 Link-Layer, Bridging, VLANs, Jira, Rally, UML, KVM, VmWare

ADDITIONAL INFORMATION

Honors	John Morrison Scholarship (four year merit-based college scholarship).
Background	US citizen born in Cincinnati, Ohio and raised in Harrisburg, Pennsylvania.
Interests	Music, national public radio, tennis, amateur soccer, violin, blues guitar.
Software Interests	DD-WRT on Linksys wrt54g and Netgear wnr3500l, iPhone, Android, Facebook applications, Linux KVM virtual machines, MythTv