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## Education

- **University of Colorado** Boulder, CO  
*Bachelor of Science in Computer Science* *Sep. 1989 - Dec. 1997*
  - Senior Thesis: Scientific Visualization Tool for Chemical Engineering Data

## Work Experience

- **Dell Inc. (via acquisition)** Round Rock, TX  
*Software Developer Senior Engineer* *September 2012 - Present*
  - Part of a team designing the Unix Privilege Management component of Dell's next generation Identity and Access Management suite.
  - Continue to develop and maintain Sudo and make regular releases.
- **Quest Software, Inc.** Lindon, UT  
*Software Developer 4* *May 2010 - September 2012*
  - Added support for I/O (keystroke) logging to the Sudo privilege delegation utility and implemented a utility to search and replay the I/O logs.
  - Designed and implemented a plugin architecture for the Sudo privilege delegation utility to support third-party policy and logging modules.
  - Added support for sudoers policy evaluation to the Quest Privilege Manager product.
  - Responsibilities also included development and maintenance of Sudo including release engineering and defect management.
- **Message Systems, Inc.** Columbia, MD  
*Lead Software Engineer* *August 2009 - April 2010*
  - Team lead for the Momentum mail transport agent project.
  - Responsibilities include design, development and testing of the MTA, as well as release engineering, mentoring of other team members and interfacing with support staff.
- **Message Systems, Inc.** Columbia, MD  
*Email Infrastructure Software Engineer* *March 2008 - August 2009*
  - Part of a small team developing the Momentum mail transport agent.
  - Responsibilities include general development and testing of the MTA as well as release engineering.
- **Tresys Technology, LLC.** Columbia, MD  
*Principal Engineer* *May 2007 - March 2008*
  - Principal Engineer of the Funded Research & Development team.
  - Responsible for oversight of multiple projects within the FR&D group, which specializes in researching techniques to increase the usability of Security Enhanced Linux (SELinux).
  - Provide technical oversight and guidance for research tasks.
- **SPARTA, Inc.** Columbia, MD  
*Principal Engineer* *Sep. 2005 - Mar. 2007*
  - Led a small team of developers responsible for the production of a security-enhanced version of Apple's Mac OS X operating system, utilizing type enforcement and mandatory access controls.
  - Extended the SELinux FLASK architecture to secure Mach inter-process communication as present in Mac OS X.
  - Extended and enhanced the TrustedBSD MAC Framework for the Darwin kernel, portions of which appear in Mac OS 10.5 (Leopard).

- **Looking Glass Systems, LLC.** Boulder, CO  
*Senior Programmer and System Administrator* *Feb. 2005 - Sep. 2005*
  - Served as part of a team to design and develop an agent-based monitoring system for Windows and UNIX systems.
  - Responsible for the design and implementation of an agent for UNIX-like systems that interoperates with the LG Vision server software.
  - Was also responsible for the installation and maintenance of network and computing resources.
- **GratiSoft, Inc.** Boulder, CO  
*President* *Oct. 2003 - Feb. 2005*
  - GratiSoft provided commercial support for the Sudo root privilege control package as well as consulting services for OpenBSD and other Open Source software.
- **Distributed Systems Lab, University of Pennsylvania** Philadelphia, PA  
*Sr. Systems Programmer* *Dec. 2001 - Oct. 2003*
  - Added KeyNote trust-management support to the Apache web server.
  - Continued to enhance the OpenBSD operating system on a daily basis.
- **Computer Science Operations Group, University of Colorado** Boulder, CO  
*Sr. System Administrator* *Oct. 1993 - Dec. 2001*
  - One of three full-time UNIX system and network administrators in charge of the UNIX computing resources for the Computer Science Department.
  - Managed a network of approximately 350 UNIX workstations and X-terminals located in undergraduate, masters, and research labs as well as in faculty offices.
  - Responsible for day-to-day operation of department-wide computer resources and computer support.
- **Undergraduate Operations Group** Boulder, CO  
*Manager* *Sep. 1992 - Apr. 1993*
  - Assigned as Manager and Senior System/Network Administrator for a lab of 70 workstations.
  - Supervised four part-time student employees and several student volunteers.
  - Responsible for day-to-day operation of the lab, including user support.
- **UUNET Technologies** Falls Church, VA  
*Assistant Postmaster* *May 1992 - Aug. 1992*
  - Helped administer mail, news, and UUCP on Sun SPARC workstations.
  - Wrote a database to track information requests from potential customers.
  - Ported programs from BSD Networking Release 2 to SunOS 4.1.2.
  - Implemented secure versions of Kermit, xmodem, ymodem, and zmodem for UUNET's dial-up software archive.
- **Undergraduate Computer Lab, University of Colorado** Boulder, CO  
*System Administrator* *Jan. 1991 - Apr. 1992*
  - Responsibilities included hardware and software installations, network troubleshooting, and user support.
  - Assisted in the administration of the Computer Science Department's research network of UNIX workstations.

## Skills

**Languages:** C/C++, Perl, Java, Bourne Shell, Korn Shell, C Shell, Sed, Awk

**Operating Systems:** OpenBSD, FreeBSD, Mac OS X, Solaris, Tru64 UNIX, HP-UX, IRIX, Linux, SELinux

**Security:** Extensive experience writing secure code and auditing code for security-related errors

**Workstations:** Sun Microsystems, Digital, Hewlett-Packard, Silicon Graphics, IBM, Apple

**Miscellaneous:** Excellent troubleshooting and debugging skills

## Open Source Projects

**2007–Present** One of four upstream maintainers of the SELinux tool chain.

**2001–Present** Major contributor to ISC cron (formerly Vixie cron).

**1996–Present** Core member of the OpenBSD operating system project. Participated in multiple security audits of the OpenBSD code base. Responsible for the OpenBSD C library and large portions of the OpenBSD user space.

**1993–Present** Lead developer of the *Sudo* root privilege control package.

**1993–Present** Contributor to other various and sundry Open Source projects.

## Publications

**"Security-Enhanced Darwin: Porting SELinux to Mac OS X",** *Proceedings from the Third Annual Security Enhanced Linux Symposium* in Baltimore, MD, 2007.

**"UNIX System Administration Handbook, Third Edition",** contributing author.

**"strncpy and strlcat: Consistent, Safe, String Copy and Concatenation",** *Proceedings from the USENIX Annual Technical Conference* in Monterey, CA, 1999.

**"satool: A System Administrators Cockpit",** *Proceedings from the USENIX LISA VII Conference (Large Installation Systems Administration)* in Monterey, CA, 1993.

## Patents

**Method and system for adaptive delivery of digital messages.** Furlong, Wesley J., Miller, Todd C., Schlossnagle, George. 2011. U.S. Patent Application 20110289162, filed November 2011. Patent Pending.