

Independent Consultant

01/07 – present

Consulting on web applications, data mining, cloud computing, patents, and programming. (*Java, Perl, Javascript, PHP, Flash, AJAX, AWS, SOAP, MySQL, Eclipse; Linux, Windows, Macintosh*)



SPARTA Inc (was McAfee Research, NAI Labs) 11/01 – 12/06

Senior Research Scientist

Research on computer security, Java obfuscation, mobile agents, reverse engineering, trusted computing (TCPA), mandatory security, TCP/IP. Principal Investigator for research projects funded by DARPA and AFRL. (*Java, C; Unix, Linux, Windows, Macintosh, Darwin*)



Encirq Inc (formerly Transilluminant) 12/98 – 10/01

Distinguished Engineer

Development of a new internet marketing service product that provides advertising targeting while preserving the privacy of end users.. Employee #5 of this San Francisco startup. Established architecture; built initial prototype; led the evolution of the client-side implementation into the current product version, deployed to customers of several banks.. (*Java, JavaScript, HTML, LISP, Oracle; Windows, UNIX, Macintosh*)



Sun Microsystems 8/98 - 12/98

Senior Staff Engineer

Electronic Commerce Group. Java Commerce Client (Java Wallet). Design and implementation, security and quality. (*Java; Solaris, Windows 95*)



CyberCash Inc 3/96 - 8/98

Principal Engineer, Systems

West Coast Technical & Quality Lead. Electronic payment applications & protocols, security. Worked at Sun JavaSoft on Java security and electronic commerce framework. Engineering manager for CyberCash's Secure Electronic Transaction (SET) protocol pilot implementation (project with Netscape, Visa, Toshiba, and IBM) and SET compliance testing. (*Java, JavaScript, C++, HTML; Solaris, Windows 95*)



Taligent Inc 9/92 - 2/96

Principal Engineer

Object-oriented security, software engineering, development process & change control, quality, system boot, OMG CORBA security Working Group. (*C++; Macintosh, AIX, Taligent Pink, Mach*)



Tandem Computers 9/81 - 9/92

Manager, Work Group Software QA
Software Designer

Software defect prevention & analysis, development process, workstation integration, remote SQL procedure call, X windows, CASE, management tools, OS security. Managed 14 people on QA of PC/mainframe integrated 4GL/database, office automation, electronic mail. Coordinated OS architecture & implemented object-oriented file system for new OS; worked on system boot, tools, development process. Extended transaction management for current product line. (*TAL, C, Pascal; Guardian, MS DOS, Windows, OS/2, Macintosh, UNIX™*)



Honeywell Information Systems 5/74 - 9/81

Principal Staff Engineer, CISL
Manager, Multics End User Facilities, PMDC
Software Systems Engineer, CISL

Development process, tools, database storage system, long-term direction & planning. Managed 10 people on relational database, word processing, ARPANet gateway. Led team of 25 in redesign of file system. Major design & implementation contributions to system administration & security, command interface, hard core supervisor, transaction processing, tools, reliability, fault tolerance, printer control, and system documentation. (*PL/I; Multics*)



M.I.T. 2/65 - 5/74

Manager, System Analysis and Planning, IPC
System Programmer, Project MAC

Systems, programming, administration, operations. Billing systems, pricing algorithms, budgets, graphics. (*PL/I, FORTRAN, ALM; Multics, CTSS, CP/CMS, OS/360*)

Design, implementation, & administration of operating systems, security, accounting, administration, system boot, development tools. (*FAP, MAD, PL/I, ALM; CTSS, Multics*)



B.S., Mathematics, Feb 1965,
Massachusetts Institute of Technology

Publications:

The Compatible Time Sharing System (1961-1973) Fiftieth Anniversary Commemorative Overview (with D. Walden), IEEE Computer Society, Washington DC, June 2011.

"Anti-Phishing: Best Practices for Institutions and Consumers," (with G. Tally and R. Thomas) *McAfee Security Research*, Santa Clara, CA, March 2004.

"Self-Protecting Mobile Agents Obfuscation Report," (with L. D'Anna, B. Matt, A. Reisse, S. Schwab, and P. LeBlanc) *Network Associates Laboratories*, Report #03-015, June, 2003.

"Multics," *Encyclopedia of Computers and Computer History*, Fitzroy Dearborn, London, May 2001.

"It Can Be Done," *IEEE Computer*, May 1994.

"Cleaning Up the Basement in the Dark," *ACM Software Engineering Notes*, Vol 17 no 2, April 1992.

"Timing Channels," poster session, IEEE TCSEC conference, Oakland, CA, May 1990.

"Three Questions About Each Bug You Find," *ACM Software Engineering Notes*, July 1989.

"Implementation of Security Concepts in a Large-Scale Operating System" (with C. T. Clingen), *Honeywell Security Symposium*, Monaco, December 80.

"An Example of Industry-University Cooperation: Multics," *IRIA Tenth Anniversary Conference*, Paris, June 78.

"The Multics System Programming Process," (with C. T. Clingen), *IEEE COMPCON 78*, Atlanta, May 78. Reprinted in *IEEE Tutorial on Software Maintenance*, 1981.

"Control of Access to Computer System Resources," *IEEE COMPCON 74*, San Francisco, Feb 74.

"Computer Language for the Computer Network," *Interdisciplinary Conference on Multiple-Access Computer Networks*, Austin, May 70.

Volunteer work:

External Oversight Group, CRASH-worthy Trustworthy Systems Research and Development (SRI/Cambridge), 2011.

Research proposal review panel, National Science Foundation, 2002.

Judge, Software Carpentry international open source software engineering tools contest, funded by Los Alamos National Laboratory, 2000.

Computer Museum History Center volunteer, 1997-99.

Program committee, IEEE TCSP Oakland Conference, 1996, 1997.

Security Clearance:

Details available on request.