

## Dennis Allison

### Summary

Experienced computer systems engineer, computer scientist, software engineer, manager, strategic planner, and author. Broad based skills in many areas of computer science and engineering including computer architecture, VLSI design, operating systems, distributed systems, programming language design, optimizing compilers, just-in-time compilers, formal theory, cryptography, emergent systems and modeling, artificial intelligence, natural language processing, algorithmic game theory, economic and financial modeling, and analysis of algorithms. Broad knowledge of the scientific literature. Experienced as litigation consultant and expert witness.

### Education

- 1961 A.B. University of California, Berkeley. Physics.
- 1974 University of California Santa Cruz, Short Course in Compiler Design.
- 1986 Nato Summer School on Distributed Systems.
- 1996 Advanced Tutorial on Financial Cryptography

### History

1972- Independent Consultant.

Diverse client base with an equally diverse project base including programming language design and implementation, operating systems design, distributed system architectures, microprocessor architecture, memory management systems architecture, DSP architecture, architectural evaluation, benchmark studies and comparative evaluation, network hosted micro-payment systems design, electronic money systems design, financial cryptography, multimedia education curriculum development, web site design, media encryption risk evaluation, special purpose client server system design reviews, technical writing and review, patent preparation and prior art search, and litigation support. Current consulting projects include support systems for drug development, social networking, emerging cellular telephone systems, computer gaming, reliable computing, Web 2.0 and Web 3.0 support tools, programming language compilation for distributed sensor networks, website framework development, and hardware acceleration in monolithic application-oriented supercomputer systems. Current research includes restructuring classical economic theory for use in modeling, modeling emergent systems, decision support, programming parallel systems, exploring the conceptual framework of programming languages, exploring mobile enterprise architectures for investment banking and venture finance, defining the architecture for large scale, energy efficient server clusters, architecture and software support for embedded low-power embedded computers, architecture of accelerators for high performance computing clusters using FPGAs and GPGPUs, concurrent programming languages and parallel systems, artificial intelligence, neuroscience based interfaces, very high speed computing, the semantic web, and design tools for FPGAs.

1975- Lecturer, Computer Systems Laboratory, Electrical Engineering Department, Stanford University.

Taught graduate and upper division courses in Computer Architecture, Advanced Computer Architecture, Software Engineering, Software Projects, Computer Programming. Advised students. Recreated the weekly EE380 Colloquium and moved it to a web-hosted and delivered course. Currently EE380, the Stanford EE Computer Systems Colloquium, presents 30 speakers a year. The lectures are videotaped, webcast live, archived for on-demand viewing, and distributed through non-traditional channels such as YouTube and iTunes.

2008- Member, Advisory Board, Maxeler Technologies. Senior Advisor. Maxeler builds sells acceleration for High Performance Computing and builds FPGA based hardware and software for high-end server clusters and low latency mission critical systems.

2013- Acting-CTO and Advisor, DISCERN. DISCERN provides decision support for financial services analysts using both structured and unstructured information and data intensive analysis tools.

2000- Founder and Member, Board of Directors, Silicon Valley Intellectual Property Exchange. SVIPX develops, acquires, and markets intellectual property. Currently SVIPX is inactive.

1993-1998 Member, Board of Directors, ImaginOn Corporation.  
ImaginOn designs and markets multimedia and web-enabled software products.

1993-1999 Member, Advisory Board, PPM Corporation.  
PPM designs of location enabled personal telecommunications devices and supporting software technology.

1993- Editorial Advisor, Addison-Wesley (Pearson).  
Editorial advisor to editors in both Academic and Professional Reference groups.

1990-1992 Senior Computer Architect and member of the founding team, Hal Computer Systems. Hal Computer Systems designed and built a high performance, superscalar 64-bit SPARC compatible microprocessor and memory management unit. Hal was acquired by Fujitsu.

1987-1993 Series advisor, Prentice Hall Incorporated.  
Founded and administrated the *Innovative Technology* book series and provided general advice to editors in Computer Science, Computer Engineering, and Electrical Engineering.

1975-1987 Series Advisor, CBS Educational Publishing.

1985 Visiting Research Scientist, Research Center of Crete.

1983-1987 Member, Board of Governors, IEEE Computer Society. (2 Terms)

1984-1985 Board Member, Promix Corporation.

1983-1985 Board Member, Forefront Corporation.

1978-1985     Advisory Board, Logitech Corporation.  
1974-1985     Board Member, InfoSci Corporation.  
1982-1984     Founder and Technical Advisory Board Member, Koala Corporation.  
1972-1983     Founder, Board Chairman, President, People's Computer Corporation.  
                  PCC was a not-for-profit corporation which popularized personal  
computing. PCC             published numerous journals including *Dr. Dobb's Journal*.  
1974-1976     Lecturer, Medical Information Systems, University of California, San  
Francisco.  
1970-1972     Founder and Member of Technical Staff, Polymorphic Corporation.  
1962-1972     Physicist, SRI International (aka Stanford Research Institute) Radio  
Physics Laboratory.

### **Professional Societies**

Conference Committee, Challenging Turing Conference. Scheduled for September 2012, this conference will explore the work of Alan Turing and its impact on the occasion of his 100<sup>th</sup> year.

Long time active member of both IEEE and ACM. Served on numerous boards and committees. Past multi-term member of the IEEE Computer Society Governing Board.

Active organizer and frequent chair for a variety of conferences, workshops, and meetings. Have served as program chair, general chair, program committee member, or advisory board member for a variety of meetings including: Nicograph Japan, USA/Japan Computer Conference, NCC, COMPCON, Asilomar Microprocessor Workshop, Wescon/MiniMicro, Groupware, Genetic Algorithms, Microprocessor Forum, Microsystems Forum.

### **Editor or Editorial Board Positions:**

Microprocessor Report, IEEE Computer, IEEE Software, Dr. Dobb's Journal, Byte, Recreational Computing, People's Computing, PCC Newspaper.

Papers and Technical Reports: Over fifty published papers, and technical reports.

### **Recent Publications**

SPARC International, *The SPARC Architecture Manual Version 9*, Prentice Hall, 1994. Section editor and contributor.

Hoxey, Steve., *IBM PowerPC Compiler Writers Guide*. IBM, 1996. Contributing editor.

Susanne Rodriguez, *The Natalie Barney Pages*. Webmaster.

PCC Alumni Web Site, <http://www.svipx.com/pcc>. Historical website about the People's Computer Company.

Adele Goldberg, Dennis Allison. 2002: A Zope Odyssey. OSCON 2003, Portland OR.

Michael Flynn, Dennis Allison, Oskar Mencer, Rob Diamond. Monolithic

Supercomputing: what it is, why it's important, and how to design for it. Tutorial given at the International Conference on Supercomputing, (Tsucaba, Japan, June 1-4, 2010).