

Résumé

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[This résumé is online at nesssoftware.com/nesssoftware/resume.html.]

Education

Harvard College Cambridge, Massachusetts
A.B. *magna cum laude* in applied mathematics from Harvard College, 1968;
thesis on computational complexity. Dean's List, Phi Beta Kappa, Harvard
College Honorary Scholarship, Harvard Freshman Honorary Scholarship.

Stanford University Stanford, California
M.S. in computer science from Stanford University, 1970. National Science
Foundation Graduate Fellowship, IBM Graduate Fellowship.

Experience

- Over thirty years of experience as a software development consultant (since 1977). Clients include: AMD, Atari, Commodore, Continuum, Daisy, Digital Research, File System Labs, Intel, Kinetic, Mark Williams, Philips Semiconductors, Streaming Networks, Stream Processors, TriMedia, Wicat.
- Under contract to AMD, Austin/Sunnyvale (2012-2013). OpenCL-related documentation.
- Under contract to File System Labs, Chicago (2009-2012). Developed and tested fault-tolerant distributed filesystem.
- Under contract to Stream Processors, Inc., Sunnyvale (2005-2009). Software development system documentation for VLIW SIMD stream processor. Language design and documentation for Stream language. Software release design, implementation, and testing.
- Under contract to TriMedia Technologies, Inc., Milpitas (2000-2002). Development of TriMedia Compilation System, multiplatform C/C++ development system targeting TriMedia VLIW processor.
- Under contract to Philips Semiconductors, Sunnyvale (1995-2000). Designed and implemented portable utilities for TriMedia VLIW processor C compilation and simulation system. Designed and implemented C compiler driver, object file librarian and other standard compilation suite utilities for TriMedia object format. Revised TriMedia standard C library and headers for ANSI/ISO C Standard compliance. Wrote high performance TriMedia assembly language library routines. Ported VLIW simulator from Modula-2 to C and revised simulator extensively. Ported EDG C++ front end. Edited and reorganized TriMedia compilation system documentation. Designed and implemented uniform multi-platform build for development toolset; ported toolset from SunOS to HP-UX, Win9x/Windows NT, and Solaris.
- Under contract to Mark Williams Company, Chicago (1977-1995). Designed

and implemented utilities for the COHERENT system, an independently developed Unix look-alike operating system; wrote and edited numerous COHERENT documents.

- Implemented, maintained and extended i80x86-targeted C compilers and libraries hosted on VAX, MSDOS, COHERENT and other operating systems. Implemented 80286 code generation and runtime support, i8087 runtime support, LARGE model source-level debugging support, ANSI C Standard compatible libraries, 32-bit i80x86 code generation, and OMF286 and COFF output writers for Mark Williams C compilers.
- Designed and implemented COHERENT operating system installation suite, including fixed disk partitioning and system configuration. Designed and implemented special tools to build and maintain COHERENT object distribution. Maintained object distribution tree and corresponding sources.
- Ported assembly-level debugger **db** for i80x86 machine model.
- Designed and implemented PostScript back end for **troff** text processor. Modified **troff** to support effective use of in-line PostScript input. Designed and implemented PostScript font-handling and printing tools.
- Designed and implemented XYBASIC, an 8080 BASIC interpreter for process control applications. Versions for CP/M, ISIS-II and ROM-based standalone operation; extensive custom modifications for OEM customers.
- Designed and implemented MIDI sequencer for Atari ST.
- Designed and implemented 8080-based Pascal compiler.
- Delegate to ANSI C Standards committee X3J11.

Expertise

- Programming experience in ALGOL, BASIC, C, C++, FORTRAN, LISP, Modula-2, Pascal, Perl, PL/I, PostScript, Python, and other higher-level languages.
- Web development experience in HTML, CSS, PHP, and SQL.
- Assembly language programming for IBM and DEC mainframes and many microprocessors.
- Detailed knowledge of Unix/Linux and Windows operating system internals. Experienced in cross-platform development and in complex multi-platform build procedures.
- Detailed knowledge of ANSI/ISO C standard, ISO and IEEE Pascal standards, ANSI BASIC standard, IEEE floating-point standard, POSIX P1003.1 and P1003.2 standards, Intel iBCS2 specification, and MIDI specification.
- Compiler theory and design, theory of computation, logic, algebra, operating system design.

Publications

- *SPI Software Documentation*, 2006-2009, Stream Processors Inc., Sunnyvale. Wrote / edited numerous other SPI documents.

- *COHERENT* manual, Revision 11, 1994, Mark Williams Company, Chicago. Coauthored with employees of Mark Williams Company. Wrote / edited numerous other COHERENT sytem documents.
- *Let's C C Compiler* manual, Revision 3, 1987, Mark Williams Company, Chicago.
- *XYBASIC Programming Manual*, Revision 6, 2/9/82, Mark Williams Company, Chicago.
- *On the Termination of Markov Algorithms*, 1970. Coauthored with Zohar Manna. Proc. 3rd Hawaii Int. Conf. on Systems Science.
- *Inductive Methods for Proving Properties of Programs*. Coauthored with Zohar Manna and Jean Vuillemin. Communications of the ACM, V. 16 # 8. Awarded the ACM Programming Languages and Systems Paper Award, 1974.