

## Software Development

Development in C: tools, algorithms, computation, optimization, search, programming language development, automated testing, UX/UI design & prototyping, OS internals and computer architecture. Strong communication skills: tech and non-tech.

Developed a full stack environment, front to back in C, with a multi-threaded, MVCC, NoSQL Database with location-based components, used for REST apps. Licensed by Apple and others.

## Publication

A Fast Shuffle for Binary Search – <http://TinyUrl.com/FastShuffle> May 2018  
A Fast String Match Algorithm (4.2 speed up over DL) – <http://dantowitz.com/> July 2011

## Experience

**Software Developer & Consultant**, Millburn, NJ 1989-Present

Developed and Designed custom tools and commercial apps (core language C):

3 custom programming languages & interpreters • advanced Mail Server software • a message-based multi-threaded simulation engine with lock-free data structures for shared memory parallel processors • an Apache CGI-App gateway • a CMS

**MillburnMac.com, Millburn, NJ** 1989-Present

Founder, Technical Support Consultant — Worked with Consumers and Businesses.

**InterActions Media, a division of NCI Advertising / Publicis**, New York, NY 1998-2002

Co-Founder, VP Development — Created and managed 25 projects, peak team size of 10 people. Software for education, marketing, games, contests, surveys, and secure data collection.

**Ehrlich Multimedia / Times Mirror Multimedia**, Park Ridge, NJ 1993-1995

Developed Interactive CD-ROM titles and custom tools.

**Graphex Imaging Systems**, Yonkers, NY 1991-1993

Computer graphics & tools, ported C source for a PostScript RIP from Windows to Mac OS & Unix.

**Symantec / Peter Norton Product Group**, Santa Monica, CA 1991

Consultant — Developed components and tools for The Norton Desktop for Windows 3.

**Citicorp / Transaction Technology, Inc.**, Santa Monica, CA 1989-1991

Consultant — QA for Bank ATMs. Took the initiative to develop a Goal-Seeking programming language & interpreter to model ATMs. The interpreter generated robot code to test ATMs.

**Digital Equipment Corporation**, Boxborough, MA 1985-1989

Automated Computer Architecture Verification software for CISC and RISC CPUs. Developed test strategies, methods, and Monte Carlo models for register files, instruction order, and floating point.

## Education

**University of California**, Los Angeles, CA 1989-1991

Advanced to Candidacy for a M.S. in Computer Science (ABD), GPA 3.71, Computer Architecture, Fault Tolerant Computing, & Parallel Simulation. Developed a multi-threaded simulation engine for a Shared Memory Parallel Super Computer (akin to MPI). ACM Programming Team.

**University of Massachusetts**, Amherst, MA 1981-1985

B.S. in Computer Science, GPA 3.92, elected to Phi Beta Kappa, Cum Laude

Dean's list every semester & an Alumni Scholar. Operating systems, numerical computation, and computer graphics. Graduate TA my last semester for a course on assembly language.

## Interests

Community theater and a cappella. I have performed on radio, television, and film.

The Internet Movie Database: <https://imdb.com/name/nm4774372/>