Dave Hwang

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US Citizen

"Create like a god, command like a king, work like a slave."
– Constantin Brâncuși

Education

1995 **Massachusetts Institute of Technology**, *BSEE*.
Varsity Football, Club Volleyball, Zeta Beta Tau Fraternity

Skills

Programming	Full-stack web development, mobile app development, Oracle, PostgreSQL, MySQL, PLSQL, TCL, Perl, PHP, HTML, CSS, Javascript, C, Obj C, Swift, OpenACS, shell scripting, data modeling
SysAdmin	Linux, OSX, DBA, AOLserver, Apache, Wowza, qmail, DNS, VOIP, AWS, CDN, merchant services, networking
Tools	Logic analyzer, oscilloscope, SMT rework, woodworking, machine shop, network cabling
Hardware	Board design/layout for high-speed circuits & signal integrity, high-availabilty/fault-tolerant design, system architecture, schematic capture, prototyping, debugging, DFM, DFT
Software	Emacs, LaTeX, GIMP, ImageMagick, FFMPEG, Audacity, Aperture, Final Cut Pro, Xcode, audio/video transcoding, vector/raster graphics
Other	Photography, videography, automated document typesetting, network cabling
Hobbies	Volleyball (IVL), Ice Hockey (Shark's Ice), Guitar, Bass

Patents

US6263399	Microprocessor to NAND Flash Interface
US6441595	Universal Compact PCI pull-up/termination IC
US6456139	Auto-detection and auto-enable of Compact PCI bus pull-ups
US6633948	Stackable dual mode (registered/unbuffered) memory
US6711646	Dual mode (registered/unbuffered) memory interface

▬▬▬ Experience

2005–present **Gumbox, LLC**, *Custom Web Application Development & Hosting.*

FLEX College Resource Centers, *College Counseling & Test Prep.*
- Custom Student-centric CRM, including Billing/Invoicing, Contact Log, Contact Info, Student profiles
- Custom paid streaming video subscription service for SAT/AP Courses with custom DRM system for CDN content protection
- Online College Application and College Essay tracking tool for students and counselors
- Class and event registration with online payment processing
- College Admissions Calculator (quantitative modeling of students' chances of admission to a particular school)
- Custom CMS to manage web pages, news, images and files
- Define and manage IT infrastructure, including broadband, LAN, VOIP, Google Apps and AWS

PrivateRaise, *Online Financial Data Research.*
- MySQL and PHP web application development
- Redesigned and templatized public website
- Custom data models and interface for semantic storage of SEC publication data
- Custom query tools for clients on large datasets
- Ported entire site from LAMP to WIMP after acquisition by DealFlow Media.

New Life Mission Churches, *NorCal, Bay Area, Fremont.*
- Designed and hosted public-facing website and members-only intranet sites
- Developed database and tools for custom printed songbooks and weekly leadsheets
- Produced and hosted sermon podcasts
- Managed mailing lists

2001–2005 **Compaq/HP**, *Hardware Design Engineer, NonStop Enterprise Servers.*
- Designed reference platform to test and validate the ability to run Intel Itanium processors in lockstep for fail-fast error detection.
- Developed a workaround to deal with non-deterministic nature of Itanium initialization to maintain lockstepped operation.
- Designed and developed boards for new Itanium-based loosely-coupled NonStop architecture. Involved in system level hardware validation and debugging.

2000–2001 **ArsDigita**, *Senior Software Developer.*
- Developed SQL Database-backed web applications for online communities using ArsDigita Community System (Oracle, TCL, AOLServer)
- Taught free weekend, one week, and three week bootcamps where students would learn database backed web application development.
- System administration: SunRay clusters for boot camps, web server setup and DBA)

1997–2000   **Sun Microsystems**, *Design Engineer, Java hardware, UltraSPARC boards.*
- Debugged and validated prototype microSPARC-IIe-based JavaEngine thin clients
- Designed first microJava CPU hardware reference platform for CPU validation and JavaOS development.
- Debugged memory timing problems on the UltraAX-MP (4-way MP) system caused by a die shrink in an ASIC. Corrected problems by adjusting PCB layout of the memory interface.
- Technical design lead for HA/HotSwap CompactPCI board product, including architectural design, product specification and resource management.

1995–1997   **Tandem Computers**, *Hardware Engineer, Processor & Memory Group.*
- Debugged and validated MIPS R4400-based fault-tolerant Servernet systems, running both Tandem's NonStop Kernel and Integrity Unix OS.
- Developed test setups using logic analyzers and oscilloscopes to debug lockstep failures.
- Debugged initial manufacturing builds of CPU and service processor boards to identify issues and make recommendations to improve DFM and DFT.
- Created a web-based RSVP tool for OS, Firmware, Diagnostics and QA teams to reserve time on test systems. Responsible for hardware support of those same systems.

1993–1994   **LANart Corporation**, *Undergraduate Engineering Intern.*
- Designed schematic & PCB layout of 4-port 10Base2 hub, and 10Base-T adapters.
- Designed prototype ethernet bridge based on the MC68360.
- Assisted in hardware bringup and testing of boards for customer shipments.

Other Projects

2012–Present   **Automated Photo ID and Sports Trading Card Creation**.

Developed a set of unix scripts that use ImageMagick to automatically generate custom individualized Photo ID cards for player backpacks, and photo trading cards (e.g. baseball cards) for Sunnyvale Alliance youth soccer teams.

1998–Present   **Automated Song Book and Lead Sheet Typesetting**.

Developed a custom text file format, LaTeX style sheets, and Perl scripts to enable quick entry of song lyrics, chords and metadata, and typesetting of custom songbooks and lead sheets featuring song lyrics and guitar chords for musicians, and powerpoint slides for lyrics display from weekly song lists.

2009–2010   **Mobile Volleyball League Manager**.

Created a mobile-accessible website for a volleyball league (IVL) to record match results and automatically generate weekly printouts that show overall season standings, weekly matchups and the previous week's results.

2003-2006   **Touchscreen Home Kiosk**.

Built a custom website with touch-screen enabled web applications: family photo albums, NOAA weather forecasts, music videos, and embedded Flash games for kids.

1995–Present   **Web Development**.

Continuous developer of web based applications since 1995, beginning with a simple Make Your Own Home Page CGI script hosted at MIT and listed in Yahoo while it was still http://akebono.stanford.edu/yahoo/

1993–Present   **Linux System Administration**.

Continuous administrator of linux systems beginning with kernel v0.99 and Slackware on running on a 486.