

Christopher Voltz
6607 Evergreen Springs Court
Spring, Texas 77379
281-376-6816
voltz@voltz.us

Summary

Experienced hardware and software engineer. Software architecture, development, debug, test, and program management experience of desktop, embedded, and web applications, services, drivers, and firmware for Linux, Windows, UNIX, and DOS. In-depth knowledge of HPC storage and PC graphics and video. Hardware experience includes conception, architecture, design, prototyping, debug, test, productization, and maintenance of many high speed mixed-signal designs for video and graphics subsystems. Experience with board design, PCB layout, agency certification, qualification, manufacturing test, vendor evaluation/selection/management, documentation, procurement, technical support, and legal and marketing aspects of product development. Excellent problem solving and documentation skills.

Experience

Hewlett Packard Enterprise (Hewlett-Packard, Compaq Computer Corporation) **November 1990–Present**

Currently a Master Engineer doing research and development on Spectrum Scale Erasure Code Edition for high performance computing (HPC) storage solutions.

- Developed software for [ZFS on Linux](#) and [Lustre](#) for HPC storage solutions.
- Created Ansible based installer for [Ceph](#) storage solution.
- Lead engineer on SCRUM team developing Linux host based caching solution using SSDs.
- Developed fully automated functional test system (with web GUI) for HP Smart Array drivers.
- Developer for Open Source Linux device driver for HP Smart Array storage controllers for industry standard servers.
- Architected and developed Linux and Windows applications for desktop solutions (consumer and enterprise desktops, thin clients, and retail point of sale systems).
- Architected and developed education solutions (e.g., TeachNow) in international software development team.
- Member of core team which determined strategy and direction for commercial and enterprise desktops graphics and video.
- Technical focal point for graphics and video responsible for coordinating graphics and video technologies across business groups within HP.
- Mentor for junior engineers and interns.
- System administrator for Red Hat Enterprise Linux and CentOS servers which provide infrastructure for team.
- Developed multimedia applications for Linux and Windows based thin-clients.
- Lead engineer on:
 - PCI Express, AGP, PCI, ISA, DVO, and sDVO embedded and add-in card graphics and video solutions supporting various combinations of DisplayPort, DVI, DFP, DMS-59, LFH-60, VGA, VAFC, VMC, Compaq Multimedia Bus, VFC, S-video, and composite video (input and output) connectors.
 - Dual tuner satellite receiver board which supported conditional access (CA), MPEG-2, and IP data, and utilized a USB IR remote.
 - Time-shifting standard definition tuner board and HDTV all-format decoder board.
 - PC Theatre multimedia subsystem which included dual tuners, NTSC and PAL video decoding and de-interlacing, DVD MPEG-2 video and AC-3 audio decoding, high quality audio subsystem, and 3D graphics.
 - IEEE-1394 add-in cards and ATA-100 add-in card.
 - USB video-conferencing cameras, DV camcorders, and digital still-image cameras.
 - Various video solutions utilizing analog and digital encoders and decoders, tuners, hardware DVD decoder, TrueQ MPEG-1 decoder option card, etc.
 - Consulting engineer on standard definition (SD) and high definition (HD) plasma displays with integrated tuners (SD and HD), providing video architecture, specification, design, and testing experience.
- Consulting engineer and developer for Microsoft Windows color management software (ColoReal).
- Developed software (for DOS, Windows, and Linux) for selection, test, and validation of graphics, video, audio, and storage systems. Knowledgeable with DirectX, GDI, and X Window System APIs, BIOS, driver development, integration, and testing, GPIB, I²C, RS-232, and parallel port programming.
- Responsible for architecture, selection, and design of graphics, video, and audio subsystems on consumer and commercial desktops, and consumer portables. Program manager on selected projects.
- Specified, designed, and debugged hardware and software for DSP based spectrum analyzer (to test PC speakers for distortion and amplitude), analog data acquisition system (to test power supplies), and various other test fixtures to test graphics, video, and audio solutions.

Texas Instruments

July 1989–November 1990

Electrical Design Engineer responsible for design, debug, and documentation of embedded hardware (including high speed 10-layer mixed signal PCBs) and software using C, X Window System, and Intel 8751 assembly language.

University of Dayton Research Institute

November 1986–July 1989

Computer programmer/technician responsible for design of digital image processing and real-time custom visual stimuli display and analysis software (using C, 80x86 assembly, FORTRAN, Pascal, and BASIC) for basic vision research.

Education

MEE in Computer Systems Engineering at [Rice University](#) (Houston, TX) May 1995

- Major in VLSI design with minors in DSP/image processing and advanced optimizing compiler construction.

BSE in Computer Systems Engineering at [Arizona State University](#) (Tempe, AZ) May 1989

Patents (USPTO and EPO) and Patent Applications

- Pending: *Updating Firmware Images on Chained Input/Output (I/O) Modules.*
- Pending: *Multi-number Wireless Communications System and Method.*
- Pending: *Automatic Optimized Scanning with Color Characterization Data.*
- Pending: *Method of Optimizing Video Output for a Computer System with Digital-to-Analog Converter Characterization Data.*
- 8,358,347 *Frame rate measurement.*
- 8,031,268: *Audio over a Standard Video Cable.*
- 7,952,748: *Display Device Output Adjustment System and Method.*
- 7,893,998: *Audio over a Standard Video Cable.*
- 7,760,207: *Image Display Adjustment System and Method.*
- 7,609,255: *Supplying Power from a Display Device to a Source Using a Standard DVI Video Cable.*
- 7,398,008: *Copy Protection for Analog Video Signals from Computing Devices.*
- 7,283,430: *Systems And Methods For Overriding An Ejection Lock.*
- 6,859,538: *Plug and play compatible speakers.*
- 6,765,624: *Simulated burst gate signal and video synchronization key for use in video decoding.*
- 6,670,994: *Method and apparatus for display of interlaced images on non-interlaced display.*
- 6,504,577: *Method and apparatus for display of interlaced images on non-interlaced display.*
- 6,441,812: *Hardware system for genlocking.*
- 6,314,523: *Apparatus for distributing power to a system of independently powered devices.*
- 6,300,980: *Computer system design for distance viewing of information and media and extensions to display data channel for control panel interface.*
- 6,295,090: *Apparatus for providing video resolution compensation when converting one video source to another video source.*
- 6,201,580: *Apparatus for supporting multiple video resources.*
- 6,166,772: *Method and apparatus for display of interlaced images on non-interlaced display.*
- 5,892,933: *Digital bus.*

Publications

- *519035 Improved RF tuning of television signals*, Disclosed anonymously, HP Research Disclosure, July 2007.
- *519030 Saturation control for high definition video*, Disclosed anonymously, HP Research Disclosure, July 2007.
- *487018 Hard case with embedded keyboard for a small portable computer* by Christopher Voltz, HP Research Disclosure, November 2004.
- *Shape Discrimination Research Using an IBM PC* by Christopher D. Voltz and Dr. George A. Geri. Air Force Human Resources Laboratory Final Technical Report for Period Oct. 1987 to July 1989.
- *Texture Discrimination Research Using an IBM PC* by Dr. George A. Geri and Christopher D. Voltz. Air Force Human Resources Laboratory Final Technical Report for Period Oct. 1987 to July 1989.