**Bart Bartel**

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# OBJECTIVE

System software, firmware and device drivers.

# EXPERIENCE

1. **HeliTrak, Inc.**

**Software Engineer**

Dec 2015 to Present

Gig Harbor, WA

Robinson helicopter autopilots and safety equipment: Development of firmware on bare-metal ARM, device drivers and async I/O framework (USB, I2C, CAN, RS485), prototyping and bringup, secure terminals, code generators, system model verification, unit testing, coverage analysis, inertial sensor calibrations, flight data visualizations.

**OSNEXUS Corporation**

**Sr. Software Engineer**

Jul 2015 to Dec 2015

Bellevue, WA

Software defined cloud-storage: Developed Linux system software for managing SCST Fibre Channel & iSCSI load-balancing and high-availability failover, interface to Java client, and device-mapper-based driver to evaluate perf of CEPH/RBDs and crush map zone distribution.

**Western Digital**

**Sr. Principal SDE**

Sep 2012 to Jul 2015

Bellevue, WA

Storage host PCIe bus adapters: Developed Linux kernel framework for plugging multiple storage transports (NVMe, AHCI/SATAe, SoP/PQI) for FPGA prototype bring-up, domain specific PUMA language compiler and Linux kernel virtual machine, QEMU device and firmware virtualization, and device mapper layer for hybrid SSD/HDD drive.

**Microsoft**

**Sr. Escalation Engineer, WDK Storage Lead**

Sep 2003 to Sep 2012

Redmond, WA

Device driver and firmware development for 3rd party IHV/ISVs: Storport miniports, disk and volume filter drivers, KMDF, MultiPath IO DSMs, file system mini-filters, and network redirectors. Delivered training and DevCon talks on Windows driver development. Debugged kernel issues and pushed fixes to sustaining.

**PolyServe**

**Sr. Software Engineer**

PolyServe

Aug 2002 to Sep 2003

Beaverton, OR

Clustered File System (PSFS): Developed Windows disk and partition device drivers to provide cluster-coherent namespace control of the SAN storage IO subsystem, cross-platform user-space Java client interfaces, and Windows Multipath IO DSM drivers managing multiple paths on storage arrays.

**Veritas Technologies LLC**

**Staff Software Engineer**

Nov 2000 to Aug 2002

Redmond, WA

Developed Windows SCSI/Fibre Channel dynamic multi-path driver (VxDMP) with MSCS/VCS cluster support for Volume Mgr. product, user-mode provider interface for Java client, and satellite drivers for 3rd party array controllers: EMC, IBM, NEC, Hitachi, Compaq, and JBODs.

**NEC System Technologies, Ltd.**

**Principal Software Engineer**

Nov 1997 to Nov 2000

Redmond, WA

Firmware and Windows miniport development of (MD8404) Link/PHY Chipset PCI Host Bus Adapter. Advanced development of 1394b functionality. Also developed Windows miniport driver for USB OHCI controller.

**Cirrus Logic**

**Sr. Software Engineer**

Aug 1996 to Nov 1997

Bellevue, WA

Developed Win9x miniVDD I/O kernel mode VGA virtualization driver for 546x chipsets. Added AGP GART allocation, DirectDraw API hooks, ACPI BIOS and multi-monitor support for Windows 98.

**Spacelabs Healthcare**

**Software Engineer IV**

Aug 1995 to Aug 1996

Redmond, WA

Embedded Medical Gas Analyzer: Developed embedded VxWorks-based application firmware and drivers for gas analyzer system.

**Boeing, Commercial Avionics**

**Software Engineer**

Aug 1992 to Aug 1995

Everett, WA

777 Avionics: Developed firmware for ARINC-629 Bus Controller ASIC, providing a bus-master DMA bridge from system memory bus to the system-wide network: VMS/XdAsm build environment, Solaris (Cadre) CASE tools, HP-UX ICE.

**Hughes Aircraft Company**

**System Engineer**

Jan 1987 to Aug 1992

El Segundo, CA

Developed signal processing and inertial tracking algorithms and hosted into real-time environments for AOA/AST and OSDP/MSX programs. Performed phenomenology simulations of IR sensors and high fidelity end-to-end systems analysis. Performed trade studies of non-stationary noise (cluttered background) filter algorithms on scanning and staring sensor modes.

**SKILLS**

C, C++, Python, Firmware, Device Drivers (Linux, Windows, Embedded), ANTLR, LLVM

**EDUCATION**

B.S. Physics, UCLA, 1986