**Objective:**  
Highly multifaceted, analytical, and performance-focused professional offering extensive experience in embedded firmware and software engineering encompassing, drivers, and applications. Adept at identifying and troubleshooting sensor system design issues; developing and testing solution algorithms; and architecting digital subsystems and bus interfaces. Hands-on, decisive leader of high-performing technical teams delivering continuous process improvement and operational efficiency. Possesses strong verbal and written communication skills and is capable of collaborating with various professionals throughout project process and software development lifecycles. Proven Technical Team Leader.   
  
**Experience:**  
Dell Inc., Austin, TX  
Senior Principal Software Engineer 2012–Present  
Serve as a technical lead of the BIOS Manageability Feature Team, in charge of executing all manageability features, while conducting BIOS defects diagnosis and troubleshooting in Unified Extensible Firmware Interface (UEFI) modules  
Act as the BIOS systems engineer and technical lead for the precision tower workstations  
Function as a member of the UEFI BIOS Security Team  
Determine and resolve security holes as well as implementing new security-related features as the BIOS security engineer   
Effectively manage concurrent engineering teams at Dell, AMI Taiwan, and Foxconn China, while interfacing with Intel and was the Firmware point of contact for the larger Precision Workstation Tower Engineering team  
  
Sencore, Sioux Falls, SD   
Senior Embedded Systems Engineer 2009–2012  
Served as the technical lead of the engineering team creating DVB-S/S2 satellite modulator and h264/Mpeg2 video transcoder products  
Architected and implemented a C++ embedded framework providing an object-oriented client and server data-driven messaging model  
Established strategic direction of embedded software development and field-programmable gate array (FPGA) product implementations  
Mentored developers in utilizing embedded design and advanced implementation techniques  
Architected and implemented interrupt-driven Linux drivers for the DVB modulator cores  
Consolidated data types and optimized bus and protocol implementations in developing and executing a code reuse optimization project, reducing product code base by ~66%, minimizing time-to-market for new products from 18 months to less than 6 months. The increase in quality help attain post-product release zero customer escalation scenario  
  
Maui Innovative Peripherals, Kihei, HI   
Senior Embedded Engineer, Military/Aerospace applications 2001–2009  
Led the development and deployment of a complete software stack for an infrared (IR) optical tracking system which included a Microsoft Windows™ compact PCI (cPCI) device driver, data processing service, and a TCP/IP data and control interfaces  
Architected the digital subsystem and bus interface used to coalesce and move data into the data processing CPU   
Implemented laboratory hardware control and test bed analysis software  
Actively collaborated with customers in understanding and creating functional and technical requirements  
Capitalized on industry experience in establishing an interrupt-driven PCI device driver through shared memory DMA for data transfer along with a multi-threaded data collection and processing service with a TCP/IP interface  
Drove and integrated improvements, performance optimizations, and driver integration while translating all sensor algorithms from FORTRAN to C++  
Created a customized control software used in positioning a five degree of freedom optical test stage, with capabilities such as collecting, analyzing, and presenting real-time sensor data test results through Direct3D  
Conducted research and personal networks, provided solutions to all sensor system design issues using alternative fiber optics, emitters, detectors, and optical filters  
Oversaw and coordinated the Product Team’s progress  
Provided written and verbal regular reports to the chief executive officer (CEO)  
  
Senior Product Engineer, Commercial Products   
Made significant contributions in attaining the 2003 DaVinci Technology Award   
Earned distinction for successfully establishing the first 5-Degree of freedom input driver which was signed by Microsoft WHQL  
Expertly supervised overall software architecture, thus obtaining a fast-track promotion to a lead technical role and senior technical advisor to the CEO  
  
  
Intel Corporation, DuPont, WA  
Senior Software Engineer   
Acted as the IA64 (Itanium) platform BIOS Engineer team member  
Created BIOS source control tools and provided compiler support and debug  
Initiated the development and implementation of an embedded, multi-bus, multi-protocol diagnostic tool encompassing embedded software stack, multiple device drivers, multi-threaded/multi-user TCP/IP command processor, and three communication protocol drivers  
Introduced the utilization of TCP/IP for multi-site and multi-user embedded firmware test capability, in turn reducing cost, time to market, and the number of dedicated servers required for firmware testing  
Decreased test time by 55% while simultaneously increasing test coverage by 40%  
Enabled testing of firmware evaluation in a pre-boot environment with early silicon and reduced firmware test setup time by 80%  
Developed an I2C protocol analyzer and wrote the PLD code, software, and drivers  
Integrated chipset emulation software modules into Intel platform simulation suite (Soft SDV)   
  
**Education:**  
Coursework in Computer Science Utah State University, Logan, UT  
Coursework in Computer Science Montana State University, Missoula, MT   
  
**Skills:**  
Efficient Team Organization  
Systems Architecture  
Process Methodologies  
Driver Implementation  
Coding and Debugging Techniques  
Software Implementation/Optimization  
Firmware and Software Design and Testing  
Data Analysis and Gathering  
  
  
**Additional Information:**  
Professional Development   
  
Training: 7 Habits of Highly Successful People | Secure Coding in C | Better Firmware Fast (Jack Ganssle)  
  
Technical Acumen    
  
Languages:    
C, C++, C#, x86 Assembly, Visual Basic, and Python, TCL  
Operating Systems:  
Windows, Linux, VxWorks, UEFI  
Buses/Protocols:  
ITP, I2C, IPMB, USB, TCP/IP, CAN, PCI, SPI, SMB, RS485, NETBIOS, MPEG-2, MPEG/IP, ASI, DVB- and S/S2  
Tools/Libraries/  
Environments/  
Specs:  
IPMI, ICE, BIOS, EFI, SMM, SMI, ISR, Multi-threading, Visual Studio, GCC, Intel C++ compiler/Perflib, Windows DDK/SDK, Direct3D, Win32, MFC, COM/DCOM, MDAC, MASM, NMAKE, OOP/OOD, Kernel Debugger (KDB), Xilinx uBlaze, AVR32, AT91SAM, Arium/Sourcepoint, and ITP  
Version Control:  
PVCS, VSS, Subversion/TortiseSVN, and Git