BOB B. BOBSON, PE
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PROFESSIONAL SUMMARY:

Electrical engineer with extensive experience in hardware design and embedded firmware. Strong in both analog and digital circuit design. Firmware in C/C++ and assembly language. Knowledgeable in microprocessor controls, memory design and analog-digital conversion. Rated excellent in annual reviews for ten straight years. Recognized by managers for consistently meeting goals.

SOFTWARE SKILLS

- Languages: C/C++, Visual Basic, Perl, Motorola Assembly Language
- Platforms: Unix, Linux, VxWorks & Windows
- CVS & ClearCase code development software
- Device Programming Software: ispLever, Quartus II, Data I/O programmers

HARDWARE DESIGN SKILLS

- Digital and microprocessor based control circuitry
- Strong hands-on experience in prototyping, testing & troubleshooting electronic equipment
- Experienced in the design of op amp circuitry, filters, and sensor interface circuitry
- Strong knowledge of audio and video circuitry
- A/D and D/A circuitry design experience with firmware development
- Analog circuit simulation using Spice and Microcap
- FPGA Development based on Verilog language
- Experienced user of DxDesigner & Orcad schematic capture software
- JTAG test circuitry design and test vector software application AEX Manager

PROFESSIONAL EXPERIENCE:

Electrical Engineering Company
Redmond, WA 2001 to Present
Electrical Design Engineer
Designed analog/digital circuitry and firmware for a medical device used for advanced surgery. Developed C code for a flash programmable AVR ATMega32 processor. Performed temperature measurements to compare thermocouple, RTD and thermistor technologies.

Hardware Design:
* Redesigned a complex digital and analog circuit board operated by a TMS320C31 processor that orchestrates the image capture and focus (ICF) of images taken by three cameras in a medical imaging system.
* Assisted in the development and testing of FPGA designs based on Verilog language using Quartus II, ispLever & ModelSim tools.

Embedded Software:
* Wrote diagnostic firmware in C to enhance troubleshooting of the ICF board.
* Enhanced embedded software running on VxWorks to improve the quality of medical imaging.
* Integrated JTAG test software to automate the testing of digital circuitry on the ICF board.
* Innovated a technique to automate testing of analog circuitry surrounded by D/A and A/D converters using digital JTAG technology.

High Level Software:
* Integrated algorithms into BD TriPath's imaging system software on a UNIX platform using C and C++.
* Enhanced a Perl program that statistically evaluates results obtained from BD's medical imaging system.
* Administrated ClearCase software used for software configuration management and kit building.
* Improved the algorithm in a Perl program that calculates RC filter values to be installed into a CCD camera.
* Improved the above imaging system's test software tool, which resulted in increased test reliability.

ABC Engineering Company
Kirkland, WA 9/1997 to 10/2000
Hardware/Software Design Engineer
Designed and project-managed a Network Interface Unit (NIT) for a Windows NT based Pentium PC that controlled the growth of cells in a rack of incubators. The NIT design included RS232 & RS485 serial data ports, and was power-backed up by a UPS. The NIT communicated with a bar graph reader and Dallas Semiconductor Touch Memory Keys (TMK). Conducted EMI/EMC testing for radiated and conducted emissions. Worked with Production and Quality Engineering to successfully bring the project into production.

Engineering Central
Redmond, WA 1/1996 to 8/1997
Hardware Design Engineer (Contract with IT Network)
Designed a PC plug-in 12-channel data acquisition card for a temperature modulated video signal. No changes were made during the extensive design review that followed.

Product Design Corporation
Monroe, WA 8/1990 to 9/1995
Product Design Engineer
Responsible for the complete design, testing and production problems of electronic locomotive components as the company's only ELECTRICAL design ENGINEER. I designed various types of timers, a warning beacon, heater temperature controller, DC/AC inverter, and an amplified siren.

EDUCATION:

University of Electrical Engineering, City, WA
B.S. Electrical Engineering, 1988
M.A. Electrical Engineering, 1990