

Anne Software-Firmware Engineer

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EDUCATION BS – Electrical Engineering, 1991: Rutgers University, New Brunswick, NJ

SUMMARY Principal software engineer with over 15 years industry experience, including:

- **Extensive product development in firmware systems engineering.**
- Design of **embedded systems for medical equipment using C++.**
- Systems design, requirements specification, programming documentation and testing of real-time systems. Expert in microprocessor applications design and implementation.
- **Produced verification test plans** and participated in requirement specifications for new product development.
- Wrote firmware in **C and assembler** for device drivers such as fibre channel disc drive arrays, motor control applications, mixed signal inputs and controls using a variety of operating systems and languages.
- Developed the final production and test procedures for the product using interactive software. Wrote component-level test plan for acceptance of printed circuit boards.

SKILLS Programming: **C/C++**, Motorola/Intel/Microchip Assembly, Intel X86, Vertex

Operating Systems: Integrity, AMX RTOS, MS-DOS, WIN 95/98/NT/2000, RTKernal, UNIX.

Processors/Platforms: Embedded PC, Microchip PIC, Motorola 6811/68332, Intel MCS 96

Tools: Assemblers/Compilers/Debuggers, Emulators, Source Safe, PR Tracker, OrCad

EXPERIENCE **ABC Corp** **Somewhere, NJ**

2001 – 2006: Principal Software Engineer

Responsible for specification, design and development of software for cardio-vascular life-support device, including:

- Architecture, design and development of an object-oriented database enabling safe data flow between various software packages across different address spaces. The database separates between the system core algorithms and the data delivered between them and provides a unified interface from any address space. (Embedded C++, Design Pattern, Integrity OS)
- Architecture, design and development of multi-threaded bio-medical algorithms for intra-aortic balloon pumping with strict synchronization requirements. The system automatically evaluates and selects optical trigger source, identify key waveform landmarks and responds to changes in signal quality by selecting new sources. (C, Embedded C++, Vertex)
- Design and development of graphic user interface for medical equipment. (Based on X-Windows technology)
- Experience with full life cycle of software development: usecases, requirements, high level design, low level design, implementation and testing for various packages.
- Served as a reviewer for numerous software packages architecture and design.

DEF Company, Inc. **Somewhere, NJ**

1998 – 2001: Senior Software Engineer

Responsible for software design of a complex stepper motor control system and communications within a newly designed medical instrument.

- Designed and implemented the software architectures for stepper motor control, Brushless DC motor control, and a FLASH Bootloader to be utilized to download firmware code to instrument in a production environment.
- Design included both CAN bus and RS-232 communications implemented on the Motorola Coldfire 5272 and DSP56F8357.
- Used C and assembly programming languages developed using the Motorola CodeWarrior with BDM/JTAG for the ColdFire and DSP56XXXX product line.
- Generated high level documentation for all aspects of software development in accordance with FDA required standards. This includes all project specifications, design, test and hazard analyses for the software implementation.

RU Corp.

Somewhere, NJ

1995 – 1998: Senior Engineer

Responsible for all aspects of new product development for building automation systems.

- Used AMX RTOS & C programming with Microsoft compiler for special real-time fire system based on an Intel 80186 embedded system. Project used Paradigm Locate & Debug for embedded platforms.
- Design of all hardware and firmware of plug-in communication module based on the Motorola 68HC908AZ60 CPU and Ethernet (CSMA/CD). Design was for a proprietary fire safety monitoring / reporting system utilizing an RS-485 driven local communications layer along with high-speed modems over dedicated leased lines.

RSS, Inc.

Somewhere, NY

1992 – 1995: Electrical/Software Engineer

Developed and deployed nuclear power plant simulator as prime contractor for the US Navy.

- Responsible for evaluation, design, and installation of changes/upgrades to nuclear simulator, including integration and programming of new plant software models and I/O devices.
- Supervised hardware and software testing of \$11 Million nuclear simulator during factory and on-site testing programs. Identified, tracked, and resolved over 3000 discrepancies.