RESUME OF
Edward Kay Cholakian

PERSONAL:

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SKILLS:

- Embedded hardware and firmware system design
- PCB layout
- C/C++ and assembler on various processors including Freescale, SiLabs, ARM, Intel
- Windows Win32
- Wire Network communication protocols, BACnet MS/TP, LONTalk, proprietary
- Wireless network communication

EXPERIENCE:

Engineering Consultant
SENIOR ELECTRICAL/FIRMWARE ENGINEER
(September 2000 to present)

Product definition, managing product development. Hardware design of digital, analog, and RF systems. Board design and layout. Firmware design and coding in C and assembler using mixed signal processors. DSP implementations. Defining and designing a medical product incorporating a short range RF control link, graphic display, and capacitive touch button and touch screen interfaces. Defining and designing sensor systems. Designing and coding twisted pair wire, embedded telephone modem, and wireless networks.

RAYTHEON MARINE ELECTRONICS, Fort Lauderdale, Florida
SENIOR SOFTWARE ENGINEER **Startup Division** Developing algorithms and software to implement sonar and sonar data displays for commercial applications using the ARM microprocessor and embedded PCs in assembler and C. The sonar data acquisition and processing front end controlled ping pulse width, power, and repetition rate, log amp receiver gain, and collected raw sonar data via fast interrupts. Raw data was processed for noise reduction and signal strength normalization using an adaptive digital filter. The efficient display algorithms managed screen data using techniques to greatly reduce processor work load. A complete reference design was completed using an Intel x86 then implemented on an ARM embedded system.
(October 1999 to April 2000)

CONTROLLED DISTRIBUTION SYSTEMS, Fort Lee, New Jersey
SYSTEM DESIGN ENGINEER **Startup Company** Designed hardware and software for multiprocessor networked machines in C and assembler on Motorola and Intel microcontrollers. Local network packets were transmitted asynchronously using twisted pair. Wider area communication was via LONTalk firmware based protocol with power line coupling.
(Sept. 1998 to July 1999)

ADVANCED MARINE PROPULSION, Norwalk, Connecticut
SYSTEM DESIGN ENGINEER **Startup Company** Designed a network controlled electro-hydraulic fly-by-wire system for Marine applications. The system used Motorola with the LONTalk protocol.
(June 1998 to Sept. 1998)

WRAY-TECH INSTRUMENTS, Stratford, Connecticut
ENGINEERING PRODUCT MANAGER Directed the full product development of transportation display, sensor, and control systems. Designed embedded computers to provide multimedia graphical interactive user interfaces. These products utilized computer networks especially optimized for critical sensor and feedback control applications in harsh environments. Networked system components included GPS receivers, RFID, and instrumentation subsystems. Designed the digital and analog hardware and computer software in assembler and C/C++ using Motorola and Intel processors. Developed software algorithms for real-time digital signal processing and data analysis using C and MathCAD. Developed Microsoft device drivers. Developed system modifications for European markets working directly with these customers abroad.
(August 1992 to April 1998)

ADVANCED TECHNICAL SERVICES Orange, Connecticut
ENGINEERING PRODUCT MANAGER Developed system design, hardware, software, and firmware for a control and sensor oriented networked multi-processor computer system used to implement interactive digital video interfaces to banking equipment. The system utilized PC architecture, Intel digital signal processors, and Motorola microcontrollers. Software developed included efficient operating system drivers, the first software only real-time digital audio and video compression and decompression algorithms. Developed asynchronous sensor and control networks hardware and firmware.
(1989 to 1992)

AMERICAN LIGHTWAVE Wallingford, Connecticut
SENIOR ENGINEER Developed communication software and digital hardware for a networked multiprocessor data communication and video switching systems for fiber two way digital television. Designed the switching node hardware and firmware in C and assembler using Hatachi Processors, and central controllers using embedded single board Intel x86 PCs. The system was developed for GTE for their two way fiber to the home interactive television, phone and data system. Developed software systems for advanced interactive communications for both fiber and cable television. Designed the firmware for high production volume settop boxes, and distribution hubs.
(1979 to 1989)

EDUCATION:

STATE UNIVERSITY OF NEW YORK, New Paltz, New York
Advanced French language courses.

UNIVERSITY OF CALIFORNIA Santa Barbara, California
ELECTRICAL ENGINEERING Graduate work in microprocessor system designs, magnetics, real-time control, and digital signal processing.

UNIVERSITY OF CONNECTICUT Storrs, Connecticut
ELECTRICAL ENGINEERING BSEE/CS Concentrating in electronic circuit design, interactive graphics, artificial intelligence, and switching theory. Wrote one of the first tournament rated, US Chess Federation member, chess playing programs. This program used an interactive touch screen controlled by a graphics coprocessor. The program was the first to incorporated fuzzy logic for move selection.

LANGUAGES: Conversant in French

LICENSE/RATINGS: 2200 hours total time with 1000 hours multiengine turbine and jet. Commercial license with multi-engine and instrument rating. Flight instructor (current).

Radio License KB1OIE General class