John Willauer

818-704-7629
johnw@willauers.net Woodland Hills, CA 91364

Senior Systems Software Engineer experienced in development of creative solutions for complex problems for multiple industries.

System Software Designed and Developed

- Embedded Real-Time Multiprocessor Systems
- Microprocessor Communication Systems
- Autonomous Micro-Controller Systems
- Software Development Tools
  (System Simulators, Conversion Tools, Software Testers, etc)
- Multiprocessor Performance and Reliability Software Analyzers
- Robot Systems

Industry Experience

Defense, Aerospace, Automatic Test Equipment (ATE), Telephone/Data Communications, Entertainment/Games

Operating Systems (installed, managed, and used)

Linux/UNIX: Ubuntu, Debian; Apple: Mac OS X; Microsoft: Windows; Sun: Solaris; DEC: VMS; Analog Devices: DSP / RTOS; Micrum: uC/OS-II

Software

C/C++, Assembly, HTML, Perl

Hardware

TI: MSP-430; PIC: 12F1822, 18F1847; Atmega: Arduino; ARM: Beaglebone, Raspberry Pi; Intel: X86, 8051, 80C8088; DEC VAX; Zilog Z80

Education

Certificate in Digital Signal Processing
Distributed Data Processing, Data Communications, Human Factors Engineering
University of California at Los Angeles, California (Extension)

Bachelor of Computer Science
California Polytechnic University, San Luis Obispo, California

Electronics
Pierce College, Woodland Hills, California

General Radio License: KJ6DJD

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Semi-retired Independent Contractor 2006 to present

Designed and created remote I2C control terminal with the ability to edit data on its LCD display. The terminal's PIC 16F1847 software was written in assembly.

Developed C and assembly I2C software to network a PIC micro-controller, an Arduino, a TI MSP-430, and an Inertial Measurement Unit (IMU).

Designed and created an autonomous wooden walking robot using a TI MSP-430 micro-controller to control the robots three servos. A You Tube video of the robot is on my channel, “Willauer Walker Robot”.

Created a dynamic multi-colored light strip display using WS2812 RGB LCDs controlled by a PIC 12F1822. The PIC's software was written in assembly to meet the WS2812's less than 1 microsecond timing requirement.

Designed and created a 4x4x4 LED light cube with a dynamic display controlled by a TI MSP-430 micro-controller.

Developed several Intel 8051 projects for electronics classes at Pierce College. The Software's hex-code was entered using a keyboard.

Taught a electronics and robotics summer course at Long Beach Boy Scout Sea Base. The students studied basic electronics, then they assembled, and programmed, an Arduino controlled line following robot.

Presented lectures on Linux, FOSS. (Free and Open Source Software), and Embedded Microprocessor Applications to computer user groups, and senior organizations.

Chairman of TUXLUG Linux User Group.

Embedded Software Engineer Northrop Grumman: Navigations Systems Division (formerly Litton: Guidance and Control) 2001 - 2005

Designed and developed C and Assembly language software for test systems to validate sub-systems compliance with functional and interface requirements.

Created a virtual multiprocessor hardware simulator to test Nuclear Circumvention and Recovery communications logic for a set of custom designed embedded navigation system processors.

A JTAG/ICE interface was used to implement Matlab generated code for an Analog Devices SHARC DSP based navigation system.

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Sr. Software Engineer Automated Controlled Environments Inc. 2000 - 2001

Designed and developed embedded software in C for the 63 Intel 80C188 micro-processors used in the Power Distribution Units (PDU) for Kistler Aerospace's K-1 launch vehicle. Designed and developed a multiprocessor software simulator in C that reduced product development time by 30 percent.

Designed a multiprocessor software performance analyzer that identified the critical software logic that optimized the systems response time and reliability.

Consultant JBW Enterprises 1988 - 2000

Developed software for new product prototype for an interactive mixed CD-Audio and CD-ROM disk for NEC TurboGrafx game machine. Developed DOS C software to reverse engineer TurboGrafx ROM code. Research saved Time Warner New Media $3 million.

Provided active Worldwide Technical Support for several independent NEC TurboGrafx game product developers to help reduce their product development time.

Contractor Jet Propulsion Laboratory / NASA 1986 - 1988

Created DEC VAX C software to reverse engineer and document, logic and data flow of Assembly and Fortran source code.

Created planning and scheduling software for the Mars Rover and TeleRobotics projects.