

Carl Hilton Jones

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Summary

An experienced professional, I am familiar with all phases of the software life cycle, from initial planning and cost estimation, to leading software development teams, through testing, delivery and maintenance. I can easily implement complex algorithms and have strong problem-solving skills coupled with extensive experience in real-time & embedded systems, user interfaces, signal processing, and statistics. My ancillary skills in hardware development and testing make me a strong addition to any product-development team.

Experience

Tandel Systems

Senior Systems Engineer

February 2013 – present

As an engineer contracted to Honeywell, I am responsible for requirements management for the Boeing 787 flight control software, ensuring the proper coordination of requirements changes between Boeing and the individual development leads at Honeywell.

Lockheed Martin

Software Engineer Senior Staff

January 1997 – January 2013

At Lockheed, I led a team doing algorithm development work to update ground-processing software in preparation for the restart of the Defender radar development effort.

Prior to the Defender restart effort, I was team lead for a GPU-based processing system for wide-area, full-motion video reconnaissance. This effort produced prototype hardware and software for a system that could be scaled up to process Giga-pixel video imagery in real time while also meeting the weight and power restrictions of a light aircraft.



Special Skills

Team Leader • Embedded • GPU • Graphics & User Interfaces • Hardware • Machine control • Massively Parallel Systems • Multi-threaded Software • Real-time • Scientific computing • Software & Systems Engineering • UML • X11

Languages

C • C++ • CUDA • FORTRAN • Java • HTML • Lisp • Matlab • OpenCL • PHP • Shell scripting • SQL

Platforms

Linux • UNIX • VxWorks • Windows

Citizenship

United States of America

Education

Farleigh Dickinson University

BS Mathematics 1981

I was also software lead for the team developing ground and airborne data collection components for the Antigua program. This development included:

- a custom, two-axis, real-time controller for four dish antennas,
- navigation and pointing control,
- precision synchronized data collection on both airborne and ground-based systems.
- distributed and multi-threaded design

A Java-based airborne graphical display helped the pilots perform precision navigation during tests and provided status and control for the data collection tasks. C++ server software interfaced with the hardware for system control and data collection.

The Antigua program leveraged earlier work I had performed on high-speed data collection systems for test work with the Aegis radar system and other government projects. These and other systems at Lockheed involved:

- extensive hands-on work with hardware engineers for the development and test of custom hardware interfaces,
- review and comprehension of board-level schematics,
- leveraging of mixed Windows and Unix environments,
- development for single-board computers,
- massively parallel computation
- multi-threaded software
- development for FPGA and DSP-based processors.

Critical real-time systems usually used VxWorks. Less time-critical systems would use Windows, UNIX, or Linux. Other work at Lockheed included development and testing of J2EE web services for the Integrated Ground Processor.

Systems Integration and Support Services

Senior Engineer

August 1994-December 1997

On behalf of Sun Microsystems, I developed some of the first Java-based Internet and Intranet applications for First Union National Bank. Some of my applications were featured by Sun Microsystems in their "Java Kickoff" in New York City. These applications made use of:

- SYBASE databases,
- network interfaces,
- server-side supporting applications in C++.

On behalf of NCR, I was the primary developer for the real-time component of an item processing system. My software:

- identified documents from their OCR (optical) and MICR (magnetic ink) code lines,
- extracted account information,
- encoded payment amounts,
- identified and out-sorted problem documents,
- transferred the acquired data to a Unix-based server for storage in an INFORMIX database.

I also worked on the visual-basic software that was used to display images of unreadable documents for human interpretation.

Harry L. Hurd Associates

Senior Scientist

August 1991-July 1994

At HLHA, I developed UNIX and DOS applications for the analysis of cyclostationary (modulated) and transient signals, supporting research work in the fields of acoustics, speech, and medical signal processing. As part of this work, I developed DSCOH, a commercial DOS-based signal-processing application for both 16-bit and 32-bit environments. A UNIX/X11 version of the code was used in-house.

Xybion Corporation

Principal Scientist

July 1981-February 1991

At Xybion, I was the team leader for two real-time digital signal processing and closed-loop control systems. I also headed test and evaluation teams and was a major contributor to the development of a unified approach to data collection, analysis, and control-system design that was directly responsible for the success of an important U.S. Government project.

I was also one of the primary developers for a commercial presentation-graphics suite that ran on Z80-based workstations. I also provided telephone and on-site support for the product.