

James K. Hough  
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#### CAREER SUMMARY

Over 25 years experience in the design and development of complex electronic equipment. Have held positions in hardware design, project and department management, manufacturing operations (medical), and software development. Proficient in real-time embedded software/firmware and device driver design using C and assembly language and have EPLD/FPGA design experience. Proficient in the use of a wide variety of test equipment and am highly skilled in testing and debug. Also experienced in manufacturing/engineering process analysis and design.

#### PROFESSIONAL EXPERIENCE

Varex Imaging (formerly Varian Medical Systems)  
February 2004 - April 2020

Senior Hardware Development Engineer

Designed and Simulated FPGA code implementing hardware interface from flat panel xray sensors to panel control software.  
Used Xilinx Spartan and zynq technologies coded in verilog using Xilinx Vivado development tools.  
Designed Fiber-Optic tranceiver hardware for panel interface. Designed multichannel sensor interface for automated glass testing system.  
Wrote low level power on diagnostics (C language) for stand alone panel command processor.  
Maintained and upgraded existing product line.

UTAH SCIENTIFIC  
4720 Wiley Post Way  
Salt Lake City, UT

Senior Software Engineer (January 2002 - 2003)

Design and implement C language modules and drivers for embedded 5407 based audio/video router controller for broadcast and cable television running under uCLinux.

SENIOR SOFTWARE ENGINEER (1999 - 2001) Artel Video Systems, Salt Lake City, UT

Designed and developed C language embedded real-time software modules

(VxWorks RTOS/Tornado ID processor) for Artel Crosstream network edge devices. Interfaced web-based Element Management System (EMS) (Agranat Web server) to system status and control mechanisms. Also familiar with WindRivers WindWeb web server and Envoy SNMP agent.

SOFTWARE ENGINEER (Jan. 1998 – Dec. 1999 Sun Microsystems – Network Storage – Media Systems Group (formerly Advanced Projects and Development)). Write and support drivers and interface modules for third party MPEG2 encoders/decoders for Sun Media Central Video Server product in Solaris environment. Designed reference clock driver for synchronizing video server network to external SMPTE Time Code generator using standard network timing protocol (NTP).

July 1995 – Jan. 1998 Sun Microsystems – Interactive System Group  
SOFTWARE ENGINEER

Developed firmware for embedded 68340 for 6-channel MPEG decoder board. This included SCSI driver (53C720 SIOP), MPEG channel driver for multiple ODM8211 single chip decoders, I2C for A/V setup, and diagnostics. Utilized C libraries provided by vendor to configure and run ODM8211 MPEG Decoder device. Code was in C and 68K assembly language using Intertools development environment.

Sept. 1987 – June 1995 ACUSON, Mountain View, Ca

SENIOR ENGINEER (1987–1995) – Responsible for managing product and feature introduction into production process. Serve as technical support to functional groups within manufacturing operations. Investigate and manage introduction of new technologies (component and process) into existing products and participate in design reviews and resolve electrical component issues in new products. In 1992 proposed and chartered Component Engineering group, whose purpose is to effectively resolve component failure, reliability, and sourcing issues, as well as support advanced development projects in component evaluations. Developed and documented ISO 9000 procedures and recommended practices for electrical components group. Assured conformance to FDA GMP requirements for Medical equipment.

1981–1987 COMPRESSION LABS, INC., San Jose, CA.

SENIOR ENGINEER (1986–1987) ~ Development of circuit modules for use in new video CODEC product. Original design work included firmware design and modification (using VAX FORTRAN), and hardware design on input frame memory/processor, forward and inverse DCT processors, and analog input and output video modules.

PRODUCT ENGINEERING MANAGER (1982–1985) – Created group responsible for all test and sustaining engineering functions. Also managed prototype system runs through manufacturing process, including test procedure generation and data feedback to the appropriate engineering group. Worked with Engineering Services Director to create and implement policies and procedure relative to new product introduction and ongoing engineering changes.

1976–1981 NCR Micrographic Systems Division, Mountain View, CA  
RESEARCH AND DEVELOPMENT ENGINEER (1978–1981) – Hardware and firmware development of 8X02 based IBM 3211 emulating on-line microfiche recorder. Responsible for engineering support of product after introduction into manufacturing, including writing IBM channel simulation programs in assy. language for international use and on site hardware support.

MANUFACTURING/TEST ENGINEER (1976–1978)

#### Patents

Media Server System and Method for Preventing FIFO Buffer Overflow During Multiple Channel Startup by Pre-loading a Decoder Buffer Prior to Issuing a Play Command

United States Patent 6,185,636 February 6, 2001

Media Server System and Method for Preventing FIFO Buffer Overflow During Multiple Channel Startup by Waiting Until Buffer Receives Plurality of Data Blocks Before Enabling Buffer to Transmit Received Data  
5,931,922 August 3, 1999

Media Server System Which Employs a SCSI and Which Utilizes SCSI Logical Units to Differentiate Between Transfer Modes

United States Patent 5,790,795 August 4, 1998

#### Computer Abilities

System Environments: uCLINUX, WindRiver VXWorks/Tornado, Sun Solaris, Windows, VAX VMS, Microware OS9,

Languages: Verilog, C, x86 assy, 8051 assy, PIC assembly, 68k assy (C++ and Java in progress)

## Education

Formal in-house (Acuson) training in Total Quality Management (TQM), Project Management, and Robust Design (Taguchi).

Writing Device Drivers (Sun)

Object Oriented Design (Sun)

University of San Francisco, San Francisco, Ca. ~ M.S. in Human Relations and Organizational Development, 1984.

DeVry Institute of Technology, Phoenix, AZ. BS. in Electronics Engineering Technology, 1976.

References - Available on request

# James Hough

- Kaysville, UT, USA

## Contact Information

- y2z-obv-nos@mail.dice.com (Preferred)
- 8016636070 (Preferred)

## Work History

**Total Work Experience: 45 years**

- **SENIOR ENGINEER**  
Jan 01, 1986 - No End Date
- **Senior Hardware Development Engineer | Varex Imaging**  
Feb 01, 2004 - Apr 01, 2004
- **Senior Software Engineer | UTAH SCIENTIFIC**  
Jan 01, 2002 - Jan 01, 2003 | Salt Lake City UT United States
- **SENIOR SOFTWARE ENGINEER | Artel Video Systems**  
Jan 01, 1999 - Jan 01, 2001 | UT United States
- **SOFTWARE ENGINEER | Sun Microsystems - NetworkStorage Media Systems Group**  
Jan 01, 1998 - Dec 01, 1999
- **SOFTWARE ENGINEER | Sun Microsystems Advanced Projects Group**  
Jul 01, 1995 - Jan 01, 1998
- **| ACUSON**  
Jan 01, 1987 - Jun 01, 1995 | Mountain View CA United States

- Jan 01, 1987 - Jan 01, 1995
- **| COMPRESSION LABS, INC**  
Jan 01, 1981 - Jan 01, 1987
- **PRODUCT ENGINEERING MANAGER**  
Jan 01, 1982 - Jan 01, 1985
- **RESEARCH AND DEVELOPMENT ENGINEER**  
Jan 01, 1978 - Jan 01, 1981
- **| NCR**  
Jan 01, 1976 - Jan 01, 1981 | Mountain View CA United States
- **MANUFACTURING/TEST ENGINEER**  
Jan 01, 1976 - Jan 01, 1978

## Skills

- **test and debug** | 30yrs | 2020
- **fpga designer** | 10yrs | 2020
- **verilog programmer** | 10yrs | 2020
- **xilinx ise/vivado** | 6yrs | 2020
- **altera(intel) quatus** | 2yrs | 2020
- **engineering** | 15yrs | 2004
- **c** | 8yrs | 2004
- **qa** | 5yrs | 2004
- **software engineering** | 7yrs | 2003
- **embedded systems** | 6yrs | 2003
- **vxworks** | 4yrs | 2001
- **network** | 4yrs | 2001
- **scsi** | 5yrs | 1998
- **technical support** | 11yrs | 1995
- **procedure** | 11yrs | 1995
- **business requirements** | 8yrs | 1995
- **electrical engineering** | 8yrs | 1995
- **fda** | 8yrs | 1995
- **gmp** | 8yrs | 1995
- **iso 9000** | 8yrs | 1995

- **manufacturing operations** | 8yrs | 1995
- **sourcing** | 8yrs | 1995
- **design review** | 8yrs | 1995
- **production** | 8yrs | 1995
- **manufacturing** | 8yrs | 1985
- **firmware** | 20yrs | 0
- **fpga** | 12yrs | 0
- **design**
- **verilog**
- **xilinx**

## Work Preferences

- Likely to Switch: Most Likely
- Willing to Relocate: No
- Work Authorization:
  - US
- Work Documents:
  - US Citizenship
- Desired Hourly Rate: 57+ (USD)
- Desired Salary: 115000+ (USD)
- Security Clearance: No
- Third Party: No
- Employment Type:
  - Contract - W2
  - Contract to Hire - Independent
  - Full-time
  - Contract to Hire - W2
  - Part-time
  - Contract - Independent

## Profile Sources

- Dice:
   
<https://www.dice.com/employer/talent/profile/5176e8eb586c51dbb78e9d22601825f348269c4a>