CURRICULUM VITA

FON R. BROWN III
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AREAS OF EXPERTISE

- Real time programming / scheduling.
- Firmware development for embedded systems.
- Digital circuit design using Verilog/VHDL.
- Multiprocessing and distributed systems.
- Microcontroller/hardware interface programming.
- Computer Graphics.
- Programming in C, C++, Java, Modula II, Pascal and FORTRAN.
- Programming in assembly (MSP430, Z86, XA51, 80X86, 680X0, 29050, PIC, 80751, 8048, 8051, 8080, 6502, 68HC11).

EDUCATION

- Ph.D. Electrical Engineering, USU, March 1998, 4.0 GPA.
- M.S. Computer Science, BYU, August 1989, 4.0 GPA.
- B.S. Electrical Engineering & Mathematics, USU, June 1984, 4.0 GPA.

EXPERIENCE

Full Professor, Weber State University, Logan, Utah. 2010-Present.

- Director, Master of Science program in Computer Engineering.
- Founding Faculty Member of the Bachelor of Science program in Electrical Engineering.
- Currently teach the following Courses: Introduction to Electrical Engineering (EE 1000) Digital Circuits (EE 2700), Signals and Systems (EE 3210), Digital Systems (EE 3610), Embedded Systems (EE 3710), Senior Projects (EE 4010, EE 4020), and Real-Time Systems (ECE 5710/6710).

Lecturer, Utah State University, Logan, Utah. 2007-2010.

- Taught the following Courses: Digital Circuits (ECE 2700), Microprocessor Hardware and Software (ECE 3710), Computer and Data Communication (ECE

4740), High performance Microprocessor Architecture (ECE 5750), Computer Networks I (ECE 6600), Computer Networks II (ECE 7610) and Advanced Topics in Real-Time Systems (ECE 7770).

Sr. Software Engineer. GE Healthcare, Salt Lake City, Utah. 2004-2007.

- Involved in all aspects of software design for the control unit of a C-ARM X-ray machine including surgical navigation and 3D visualization.
- Developed computer code to compute 3D tomography from a series of 2D X-ray images. The code runs an order of magnitude faster than any of GE's competitors because it exploits hyper-threading and the SIMD instruction set.

Consultant. Cache Software Development, LLC, Hyrum, Utah. 2002-2004.

- Wrote the firmware and verification test plan for an oxygen concentration measurement device then performed the FDA verification testing for the electronics and firmware.
- Developed a graphics rendering algorithm for an iterative, discretized frame buffer that finds all regions of the frame buffer impinging on a primitive, then proved that the algorithm works in all cases and documented the same.

Sr. Software Engineer. Evans & Sutherland, Salt Lake City, Utah. 1992-2001.

- Designed the architecture and rendering algorithms for a 4 ASIC, 6 FPGA circuit board which serves as the nexus for the Harmony+ graphical image generator.
- Designed and wrote a compiler/optimizer for a C-subset language suited for high performance, embedded DSP applications. It exposes, in a structured way, high performance programming constructs normally available only to assembly language programmers.
- Modified a commercial single processor real time operating system to run on a multi-processor platform.
- Designed and implemented computer graphics software for perspective texturing, accumulation buffering, pixel processing, efficient picking, etc.

Sr. Software Engineer. Signetics, Orem, Utah. 1984-1992.

- Wrote software to do SPICE-like simulation of integrated circuits using proprietary semiconductor device models.
- Designed and implemented the operating system, microcode assembler and instruction set for a 40 Mflop computer built at Signetics.
- Developed TCP/IP and Appletalk protocol stacks for said computer and developed a distributed file system and a fault tolerant parallel processing network.

PUBLICATIONS

- The School of Niklaus Wirth: The Art of Simplicity, Gerhard Rossbach, October 2000 (Co-authors: Laszlo Boeszoermenyi et al).
- Using Benefit Models for Real-time Systems, International Conference and Workshop on Engineering of Computer Based Systems, March/April 1998.
- Real Time Scheduling with Fuzzy Systems, Dissertation, Utah State University, College of Engineering, March 1998.
- The Design of an Instruction Set for the Eve Engineering Workstation, Master's Thesis, Brigham Young University, College of Computer Science, July 1989.
- On Rearrangements of the Alternating Harmonic Series, The College Mathematics Journal, Volume 16 No. 2, March 1985 (Co-authors: L. O. Cannon, Joe Elich, David G. Wright).

HONORS/ACTIVITIES

- Outstanding Electrical and Computer Engineering Teacher, 2009-10.
- Key Employee, Evans & Sutherland 1994 - 2001.
- NASA fellow 1990 - 1992.
- Signetics Quality Awards 1986, 1987.
- Valedictorian of the College of Engineering, Utah State University, 1984.
- Member Phi Kappa Phi.
- Member Tau Beta Pi.
- Member IEEE.
- Member ASEE.