

PAUL ZANDER
paulz@IEEE.org
www.linkedin.com/in/paulzander

SUMMARY:

Electronics Engineering for makers of medical devices and other demanding products. Extensive experience designing, developing, and testing both hardware and software.

CORE EXPERTISE:

- ANALOG DESIGN: ADC, DAC, DC-DC, Motor Control, Sensors
- DIGITAL DESIGN: Xilinx FPGA, Cypress pSOC, MicroChip, Arduino, Raspberry Pi, PCIe, SATA, HDMI, DDR3
- MEDICAL DEVICE EXPERIENCE: GMP, V&V, MPI
- RF DESIGN: amplifiers, antennas, filters, transmission lines, VCO, PLL
- TEST EQUIPMENT: Oscilloscopes, signal generators, spectrum analyzers, network analyzers, power meters, noise figure, phase noise.
- SIMULATION, DESIGN SOFTWARE: OrCad, Allegro, Agilent ADS, SolidWorks, Ansoft HFSS, Mathcad, Spice, EZNEC
- SOFTWARE: Python, Verilog, PERL, Linux, C++, HTML, UNIX, Verilog

PROFESSIONAL EXPERIENCE:

INDEPENDANT CONSULTANT

2014-present

- Prototype user interface: design schematic, layout PCB, program controller chip.
- Design of PCB for RFID
- Prototyped position control to 0.1 mm.

SENIOR HARDWARE TEST ENGINEER

2010-2014

Intuitive Surgical, Sunnyvale, CA

- All aspects of designing, implementing, documenting tests of components and sub-assemblies for surgical robot.
- Worked with engineers to define test requirements, designed built and verified test fixtures, wrote and documented test procedures, worked with technicians so that procedures and documentation were clear and gave proper results. One fixture had simple LED's to indicate function of a sensor being tested. Another fixture incorporated an FPGA to exercise a complicated set of signals with the device under test.

SENIOR STAFF ANALOG HARDWARE ENGINEER

2003-2009

Advantest America, Santa Clara, CA

- Modified existing tester of digital IC's to make the company's first tester for Wi-Fi chips.
- Developed circuitry for testing digital ICs with data rates to 6 Gigabits/sec. Standards included PCIe, SATA, HDMI, DDR3.
- Solved signal integrity issues using ADS, Spice and MathCAD along with hand-on measurements of eye-diagrams, S parameters, jitter, and bit error rate.

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SENIOR EMBEDDED SYSTEMS ENGINEER

2001-2003

Conductus, Inc. Sunnyvale, CA

- Sole engineer responsible for debugging and re-engineering both hardware and software of existing temperature control system for rapid and robust performance.
- Managed and led design engineer and test technician keeping multiple projects on time.
- Developed network analyzer function to add a self-tuning feature to RF filters.

VIDEO SERVER NETWORK ADMINISTRATOR & SOFTWARE ENGINEER

Pinnacle Systems, Mountain View, CA

1999-2001

(Pinnacle Systems acquired the HP division during the HP-Agilent spin-off.)

Hewlett Packard Co., Video Communications Division

1993-1999

- Network build-out and systems administrator: assembled, ran and updated a video server test lab with more than 30 racks of networked prototype equipment, video monitors, specialized television equipment, and dozens of computers. Ran performance and regression tests on new hardware and software releases. Monitored 24 hour test suites.
- Additional responsibilities required managing two test engineers
- Well regarded by co-workers for finding problems, keeping the conversations pleasant and focusing on how best to resolve situations.
- Increased efficiency by 300% by rewriting and administering numerous test programs from different programming languages to object-oriented Perl.
- Staffed HP booth at major trade shows for sales and marketing. Traveled to customer sites to promote sales, demonstrate products, and troubleshoot complex installations.

DESIGN ENGINEER: HARDWARE & SOFTWARE

1975-1993

Hewlett Packard

- Designed test and measurement equipment which are now major product lines for Agilent /Keysight, e.g. spectrum analyzers, network analyzers, signal generators, power meters.
- Pioneer in the development and realization of microprocessor-based embedded system to streamline and improve the user interface for instruments.
- Division representative on the committee that defined SCPI, Standard Commands for Programmable Instruments.

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SENIOR MEMBER

Institute of Electrical and Electronics Engineers, IEEE

I joined the IEEE as a student member, and attended local meetings to informed of technical developments.

Reactivated the local chapter of the Antennas and Propagation Society which had been inactive for several years. Conducted 6 - 8 meetings with technical speakers each year. I was the chapter Vice-chair 2009 and 2010, and chapter Chairman 2015 and 2016.

EDUCATION:

MASTER'S DEGREE IN ELECTRICAL ENGINEERING (MSEE)

PURDUE UNIVERSITY

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING (BSEE)

Kettering University, previously General Motors Institute.

Certificate in Computer Science, through the Hewlett Packard Hardware to Software Transition Program.

Perl Programming I and Perl Programming II, UC Santa Cruz extension

Xilinx FPGA Essentials

SolidWorks

ADDITIONAL SKILLS AND PROFICIENCIES:

- Active as an FCC licensed Amateur Radio Operator.
- Teach classes in Amateur Radio.
- Numerous published articles on electronics and antennas, including a design in the Radio Amateurs Handbook.
- Boy Scout Leader
- Marathon Runner
- German and French
- Machine shop