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CURRICULUM VITAE

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SKILLS

Electronic Hardware Design (DSP, Digital, Analog, Audio, Video, Control)
Product Design (concept through production management)
Computer Programming
Embedded Systems Design and Programming
ASIC Design
IC Design
Control System Design and Programming
Mechanical Design for Product Enclosures and Internal Parts
Machine Shop (metal and plastic part fabrication)

MEMBERSHIPS

IEEE (Life Member)
SMPTE (former member)
PGII, WPA (former member, Pyrotechnics, "Certified Shooter")
USITT (former member)

PATENT

US 9,699,645 B2, CO-INVENTOR
METHOD AND SYSTEM FOR USING A SUPERVISORY DEVICE WITH A
MOBILE DEVICE

PUBLICATIONS

- 2010 NXP Forum Expert for ARM Microcontrollers**
- 2008 ANSI STANDARD E1.11: Contributor**
Asynchronous Serial Digital Data Transmission Standard for Controlling
Lighting Equipment and Accessories
- 2006 EDN Magazine: SPEAKER at DesignCon**
An Engineer's Guide to DesignCon: Management panels
Round table mulls hard-IP-at-board-level concept

2006 EDN Magazine, AUTHOR
Targeting multifarad backup capacitors (and tricky clients, too)

2003 Type Magazine (Japan)
Featured in “Techno Success” article (cover story).

1997 Texas Instruments, AUTHOR
Two application notes on a high-speed, low cost interface between DSPs and host processors.

1991 Air & Space Magazine
8-page article about our “Rocket Ranch”.

Prior to 1990
Programs and circuit diagrams published in various computer magazines

WORK EXPERIENCE, Durand Interstellar, CEO, Engineer, Designer (1981-2020)

APPLE Corporation - Authorized Hardware Designer
Worked as consultant for companies building Apple accessories.

aHandSoft – Consultant
Designed and programmed Arduino accessory boards.

Alameda Scientific - Consultant
Designed and programmed musical instrument audio components.

Aliph – Consultant
Designed and programmed a DSP audio board to test their sound enhancement algorithms.

AmbuTrace – Consultant
Designed boards for medical equipment.

Areca Science Corp - Consulting hardware engineer
Designed new data acquisition amplifier board with embedded Digital Signal Processor.

Arizona State University – Consultant
Designed a computer test board.

ASG Technologies, Inc. - Chief Engineer
Design hardware and ASICs and program embedded controllers for video game hardware and accessories.

BAPS – Contractor

Design, program, fabricate custom controllers for high power color changing architectural lighting. This was for use at their commercial buildings.

Bechtel Inc. - Contractor

Designed, fabricated, and programmed control systems for two different facilities to produce “clean coal”. Work was done under contract from the US Department of Energy.

Bill Russell Enterprises – Contractor

Designed and programmed a carnival attraction. Work included metal fabrication and installation in a remote location.

Cirque du Soliel – Contractor

Designed and produced custom, high-power LED lighting controls for use in all their touring companies worldwide. Their artistic director said these were the best controls he had seen.

Coherent – Contractor

Designed and programmed control systems for industrial lasers.

DataStick Corporation - Consultant

Designed new Palm-attached data collection hardware (the award-winning DAS-1245 and all related products are completely my hardware design).

Diesel Quality Services, Australia – Consultant

Designed and produced a range of fuel conditioning and handling devices. Some devices were electronic controls, others were purely mechanical such as 3D printed diesel tank ventilators.

DQS South Africa – Consultant

New location for Diesel Quality Services. Continue consulting on various projects. Received a license to produce fuel conditioners in Russia.

DSPeech Inc. - Consultant

Designed one of the first voice-changing devices using a Digital Signal Processor. Coordinated production in Kuala Lumpur.

eFuel – Consultant

Designed and programmed a CAN interface to be used for testing electric vehicles such as the Chevy VOLT.

Epson Palo Alto Laboratories - Consulting engineer

Designed various embedded controller systems for laser printer and other products for interface to DOS and Windows-95 operating

systems. Design includes hardware and software that was then incorporated into all printers that used a parallel port. I also designed a digital video controller for testing new LCD displays and a digital test controller that replaces the standard controller in high-end color laser printers. Also designed a store display unit to demonstrate the company's scanners, digital cameras, and printers.

GradeEasy Co. - Consultant

Designed and programmed surveying equipment.

Industrial Laser Service & Supply – Consultant

Designed, fabricated, and programmed industrial engraving systems utilizing 1200 Watt ND-YAG lasers.

KidCase – co-Inventor, Contractor

Designed and programmed a supervisory device for Apple products. Received US PATENT 9,699,645.

The Lucidity Institute, Inc. - Consultant

Designed and programmed the NOVA-2 mask and other products for sleep studies.

LUSC Benson - Consultant

Designed and programmed a solar-powered advertising billboard system.

MediaGate, Inc (USA and Israel divisions) - consulting engineer

Designer of all hardware for an Internet “Edge Server” system consisting of PCI boards containing up to 30 DSP processors and custom logic.

NuField Technologies, Inc. - Consultant

Designed/constructed hardware for health related research projects spanning over 20 years.

Pneumark Automation – Consultant

Designed and programmed diesel fuel processing controls.

Positive Light, Inc. - Consultant

Designed several laser control systems which provide all critical timing and safety functions for large research lasers used in large national research laboratories. Services included hardware design, programming, ASIC design, and research into ultra-high speed electronics.

Redwood Technologies – Contrator

Designed a telephone central office voice mail board that could handle

hundreds of calls at the same time. Work included programming Application Specific Integrated Circuits (ASICs).

Rhetorex Corporation - Sr. Hardware Engineer & co Founder
Designed the hardware portion of all products (telephone digital signal processing cards) for use in several countries. Specified how software was to be written to control the products.

Sega of America - Consultant
Electronic design and programming of the prototype for the Sega VR helmet. Designed a game machine that allowed a number of games to be played in an arcade. Design included electronic hardware, programming, and a full custom IC.

SerVision, Inc. - Consultant
A project done jointly with Softier, Inc. I did all the hardware design for a new security video input board for use by the Israeli government. Design included a special security co-processor allowing features to be enabled/disabled remotely.

SleepTrace Corp. - Consulting hardware engineer
Designed all medical hardware produced until the sale of the company, including high sensitivity miniature isolated patient amplifiers, high speed playback hardware, and digital signal processing boards.

Softier, Inc. - Hardware Engineer
Entered a joint design agreement with Softier, Inc. to do the hardware portion of all their designs.

Sony – Consultant
Designed and programmed control boards for a 3D camera for use in their studios.

SRI International – Contractor, Lecturer
Designed, programmed, and fabricated a system to test a Homeland Security custom integrated circuit. Also gave the PhD and Technician staff lectures on Semiconductor Theory of Operation and Designing Semiconductor Devices.

US Department of Energy – Contractor
See Bechtel Inc. above.

Vertical Networks, Inc. - Consultant
Design analog telephony cards to be used in the “Instant Office” product. Review and contributed to the architecture and design of

the rest of the system.

Votrax Inc. - Sr Engineer

Designed telephone voice hardware, mainly for use in large companies for voice mail.

Vynet Corporation - Sr. Electrical Engineer

Designed the first multi-line voice response system. Designed the first IBM AT voice response card. Designed the first voice response system that supported 96 calls on an IBM AT. Specified first DSP for use on a computer voice response card.

Whitfield Communications - Chief Hardware Engineer

Designed telephone central office and portable test equipment such as a 1,500 line test system for use by the FAA.

WORK EXPERIENCE, 1975-1981

Continental Testing Laboratories - Sr. Technician & Programmer

Designed, built, programmed, and instructed people in the use of custom fixtures for testing aerospace equipment. Certified to program test equipment and inspect parts for Manned Space Flight. Discovered and helped prosecute a company selling counterfeit parts to the government. Worked jointly with McDonnell Douglas engineers to develop the PIND test used in MIL-883B.

Fairchild/Schlumberger - Sr. Technician & Test system Programmer

Wrote all programs for production test in the Static RAM group as well as in charge of the MOS Pilot line laboratory. Also designed and built test equipment interfaces.

Sanford Plaza Theater - Projectionist

One of two people in charge of all theater operations relating to the showing of movies, including maintaining the building and projection equipment at two locations. Youngest person with this responsibility in the state.

State of Florida - Consulting Programmer

Wrote an energy conservation program under contract to the State of Florida.

EDUCATION

1981 West Valley College - Theater

Sound engineer on school productions.

- 1981 University of Hawaii - Alternate Energy**
Courses in alternate energy generation (geothermal and wind power).
- 1978-1979 Cogswell College – Semiconductor Design**
Semiconductor Physics
Semiconductor Process Engineering Course
Electronic Design Course
- 1978 San Jose State University - Mathematics**
Additional course in calculus
- 1974-1978 Florida Technological University - EMCS**
Engineering Math and Computer Systems
Studied the design and programming of computers for use in engineering and real time control. Taught a graduate course in real time control based on the Motorola 6800 processor. Was placed in charge of the real time computer laboratory reporting directly to the dean of the college.
- 1970-1974 Sanford/Seminole High School**
President of the science club. In charge of maintaining the computer laboratory in the engineering section. Instrumental in having computer science added to the curriculum.
- 1969 US Army staff college - Civil Defense Student**
Certified in air raid shelter operations during a nuclear event.
- 1968 Private instruction to obtain an amateur radio license, K4PVO.**