

Wayne B. Norris

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WAYNE B. NORRIS CURRICULUM VITAE

EXPERT WITNESS EXPERIENCE SUMMARY:

I have acted as an expert witness in more than 60 cases in federal, state, and local venues over the last several decades, including software contract performance, software paternity, software valuation, computer forensics, engineering practices, software taxation issues, software industry appropriate compensation, and patent, copyright, and other intellectual property rights both for software and non-software technology matters. I personally hold 5 patents in nuclear instrumentation, have written a fourth in real estate escrow process control, and have 2 more pending in nuclear instrumentation and methods. I have testified on approximately 10 occasions, spanning both court testimony and depositions, and have authored approximately 50 expert reports. I specialize in explaining extremely complex concepts to general audiences in accessible and understandable ways.

Professional Summary: Corporate and technical manager, software engineer, sales and marketing executive, financial analyst/business plan author, and physicist, with 43 years of professional service and 53 years writing computer software, beginning in 1959 at age 12. Chief Scientist in environmental/oil spill community. Patent advisor. Expert witness for issues in Technology, Intellectual Property, and Conduct or Corporate Officers in Federal and State courts [15% of time or less.]

EXPERT WITNESS EXPERIENCE DETAILED DISCUSSION:

I was the US Government's expert witness for software development issues in the multi-year case of *Microsoft Corporation versus Commissioner of Internal Revenue* [US Tax Court Docket Number 16878-96], the largest tax case ever litigated by any jurisdiction in history. I authored four expert witness reports that were admitted into the record, and testified for approximately 7 hours, including *voire dire*, direct, cross, redirect, and re-cross. I was the principal architect of the Government's technical approach toward interpretation of IRC 927(c) in the case of software. The Government won the case, and my arguments were incorporated into the Court's opinion. Upon request, any or all of the expert witness reports and transcripts will be provided for examination.

I specialized in explaining very complex issues to the Court in accessible language and in advising IRS attorneys on strategies for the examination of Microsoft expert witnesses.

I have worked as an expert witness in several modes, including depositions, testimony in court, and preparation of expert witness reports and strategy documents:

- Software intellectual property
 - Microsoft Corporation vs Commissioner of Internal Revenue -- for Defendant's Counsel -- Victory by Defendant [IRS], US Tax Court, Seattle, WA and Washington, DC.

- Patentability of software
 - In re Mitchell, Los Angeles US District Court – advisory to Court
- Technology infringement
 - Interlam vs Modular Arts, US District Court, Western District, Washington State, Seattle, WA, case settled
 - Young vs GFOS, Inc., San Diego Superior Court, case settled
- Patent infringement cases
 - Jordan Spencer Jacobs v. Microsoft Corporation, Logitech, Inc., Pelican Accessories, and Analog Devices, Inc. -- for Plaintiff's counsel -- case settled to the satisfaction of all parties, US District Court, Central Florida
 - Sequent Technologies vs Insight Video Net – case settled
 - VOS Systems, Inc. vs Voice Signal Technology, Inc. – US District Court, San Diego, CA – case settled
 - Microsoft vs Comptek Plus, US District Court, Los Angeles, CA – case settled
 - Other cases settled under seal
- Forensic analyses of electronic media
 - Use of electronic footprints to establish time line – People vs Keith Johnson, Superior Court of Shasta County, CA – for Defendant's Counsel – Acquittal on 6 charges, hung jury on 8, no guilty verdicts
 - Susceptibility of text messages on cell phones to forgery – Paccione vs Albert – Criminal contempt – Superior Court of Los Angeles County, CA – for Defendant's [Respondent's] counsel – all relevant charges dropped
 - Document authentication – Microsoft Corporation vs Commissioner of Internal Revenue -- for Defendant's Counsel -- Victory by Defendant [IRS], US Tax Court, Seattle, WA and Washington, DC.
 - Riffle vs Hyde & Hyde, Northern California – case settled
 - People of the State of California vs Threlkeld – forensic recovery from cell phones and hard drives – Defendant convicted and sentenced
- Software and hardware quality and performance cases
 - Allen & Schack vs Worldwide Environmental Products -- for Plaintiff's counsel – settled, Superior Court of Ventura County, CA
- Software copyright infringement cases
 - Mitchell and Manhattan Software vs Jean Kasem, Little Miss Liberty, et al, -- for Plaintiff's counsel – Superior Court of Los Angeles County, CA – case settled prior to trial
 - Other cases settled under seal, US District Court, Honolulu, Hawaii

- Software piracy
 - People vs Joan Huang, US District Court, Los Angeles, CA – defendant plead guilty
- Software licensing
 - qad vs Ingersoll Rand – Los Angeles US District Court – case settled
- Misappropriation of trade secrets
 - Ongoing case under seal – former insider created competitor to established SaaS offering – for Plaintiff's counsel – Temporary injunction against Defendant
 - Mitchell and Manhattan Software vs Jean Kasem, Little Miss Liberty, et al, -- for Plaintiff's counsel – Superior Court of Los Angeles County, CA – case settled prior to trial
 - Lynch Communications, Inc. v Irish Communications, Inc, David O'Keefe, et al. -- for Plaintiff's counsel – Superior Court of Riverside, CA -- case dropped
- Software industry appropriate compensation
 - Feltman v Otalvaro, et al -- for Plaintiff's counsel – case settled – US Bankruptcy Court, Southern Florida
 - Smith, Dodson, Steele, Port, et al vs Kaiser Permanente [class action], US District Court, Northern California, case settled
 - Tan vs CSAA [class action], US District Court, Northern California, case settled
 - Langille v EMC [class action], US District Court, Northern California, case settled
 - Delmare v Sungard [class action], US District Court, Northern California, case settled
 - Apple v Walsh [class action], US District Court, Northern California, case settled
 - Williams et al vs Lockheed Martin, US District Court, Southern California, case settled
- Software company valuation
 - Mitchell and Manhattan Software vs Jean Kasem, Little Miss Liberty, et al, -- for Plaintiff's counsel – Superior Court of Los Angeles County, CA – case settled prior to trial
 - Felix v Ramirez – for defendant's counsel – Superior Court of Los Angeles County, CA – defendant prevailed on all counts, won counter-suit
 - Clark-Martin vs Yahoo – negotiated settlement
 - Microsoft vs Richter, OptInRealBig, et al – US District Court, Seattle, damages – defendant plead guilty

- Fiduciary duties of corporate officers
 - Lynch Communications, Inc. v Irish Communications, Inc, David O’Keefe, et al. -- for Plaintiff’s counsel – Superior Court of Riverside, CA -- case dropped.
 - Other cases settled under seal
- Illegal use of business name in HTML metatags
 - Life Alert Emergency Response, Inc. vs ConsumerAffairs.com, Inc. – Los Angeles County Superior Court
- Software contract performance
 - Alliance Manufacturing Software, Inc. vs Typhoon Software, Inc. – Santa Barbara Superior Court – for Defendant’s counsel
 - Wilmar Group vs Mastech Systems Corp. – Court of Common Pleas – Allegheny County, PA – case settled
- Genealogy of software source code to determine branching
 - Norton vs Norton, Los Angeles Family Court – case settled
- Professional conduct among scientists – defamation
 - Watts vs Synolakis – case settled
- Evaluation of private pilot dangerous conduct
 - Lima vs Foster, Los Angeles Family Court – case settled
- Airline liability
 - Case sealed
- Building lighting liability
 - Gordon vs Pacific Properties – Santa Barbara, CA – case settled
- Aerial law enforcement
 - People of the State of California vs Stevenson, Santa Barbara County Superior Court – reduced misdemeanor sentence

I have also acted as a patent consultant for private firms, reviewing patents for applicability to various cases and for intrinsic financial value.

Summary of Expert Witness Areas:

- Computer software development issues, practices, responsibilities, financing, responsibility, defects, failure analysis, and valuation
- Patent, Copyright, and Trade Secret issues, including infringement and misappropriation
- Outsourcing, including domestic and international
- General physics, dynamics, engineering, technology, and mechanics
- Software industry appropriate compensation
- Engineering and software industry standards and contract performance

- Management practices in engineering, science, research & development, and technology
- General aviation aircraft operations [I am an FAA rated Airline Transport Pilot, Flight Instructor, Ground Instructor, and Parachute Rigger]
- Fiduciary duties of corporate officers
- Hazardous materials, oil spills, and industrial safety
- Related issues

EMPLOYMENT HISTORY

PRESIDENT, CFO, CHIEF SCIENTIST

Experience in engineering, management, business, finance, accounting, software development, scientific research, intelligence community, and special operations.

- Formerly Chief Scientist and Director of an R&D firm for which I personally raised \$4 million in venture capital funding. Was Program Manager of a counter-IED system for use in battlefield, counterterrorism, and counterinsurgency applications, including conventional and nuclear threats.
- Recently President and Chief Financial Officer of an ICANN authorized Internet Domain Name registrar and Internet marketing firm with offices in the US and in Europe.
- Previously President and Chief Financial Officer of a publicly traded technology firm with 130 employees and 3 offices on 2 continents. I personally took the company public.
- Personally closed over \$30 million in product and service sales. Negotiated mergers to \$20 million. Redesigned two corporate presences and launched three product brands.
- Managed more than 100 programs and projects in engineering, software, and accounting – PMP, CSM
- Inventor of a patented explosives detection system (*US Patents 7,573,044, 8,080,808, 8,288,734; 8,357,910, 8,410,451 two others pending*).
- Regular presenter on Capitol Hill and at the Department of Defense.
- Interviewed on CNN's *Anderson Cooper 360*.
- Hold current US DOD Top Secret clearance.
- Industry evangelist for neutron technology.

RECENT EMPLOYMENT HISTORY

Management and Technology Consultant, 2011 - current

I provide management consulting to corporate clients in critical areas. Examples include:

- Stackpoole Consulting, LLC. I support this Woman-Owned Small Business [WOSB] US Government contractor, providing financial management, accounting and taxation support, US Government bid preparation and submission, and technology guidance and management.
- Advanced Scientific Concepts [ASC], Santa Barbara maker of 3D Flash LIDAR cameras used on the Dragon spacecraft and in helicopter vision augmentation systems. I represent ASC in business development in the mining and military land vehicle sectors.
- 3DStockCharts.com, Inc. I provide software management and technology and strategy guidance for a novel stock trading website currently being developed in stealth mode.
- Neutron Mineralogy Systems [NMS] – I provide organizational and technical guidance for this startup firm in the mineral assay sector, with collaboration from AMETEK/ORTEC Corporation, Adelphi Technologies, Inc., Vale of Canada, Mirmar Sensor, and SEDS, LLC.

Interim President, CFO, Domain Names International family of companies 2010 - 2011

Domain Names International is one of the largest Internet domain names registrars and provider of related services. I reinvented the corporate presence, created a subsidiary corporation for upsell and cross-sell product lines, created three product brands, and structured the corporate finances.

Chief Scientist, Board Member, SEDS, LLC and BOSSdev, Inc., family of companies 2005 - 2010

BOSSdev is a technology provider specializing in multiple systems for major US and international firms and the US military community. SEDS, LLC is its Government subsidiary.

Duties:

- Strategic positioning, Technology Management of US Government contracts, Customer relationship management, representation of the company to government and industry.
- Chief Scientist / Program Manager of a patent pending Improvised Explosive Device [IED] detect/defeat system using Thermal Neutron Activation Analysis. Successful tests were performed at the Radiochemical Engineering Development Center at Oak Ridge National Laboratories [REDC/ORNL] and our laboratories. Awarded a Congressional add contract.

- Formerly Chief Scientist for BOSSdev's line of millimeter and terahertz microwave security cameras, which detected hidden liquid and solid explosives under clothing without invading personal privacy: Interviewed on CNN's *Anderson Cooper 360* on August 10, 2006 about this camera system and its capabilities as a result of the disclosure of the London bomb plot.
- Won a contract for security audits of all Maryland Motor Vehicle Administration facilities.
- Won a contract for supply chain management / data mining for all US Army armored vehicle parts and maintenance operations; Program Manager of the resulting effort.
- Deep familiarity with counter-IED technology, CONOPS, Pentagon players, and procedures.
- Awarded US Patents Inventor 7,573,044, 8,080,808, 8,288,734; 8,357,910, 8,410,451 two others pending).

Owner and Host of a Radio Show, *Business and Technology*, on AM 1290 KZSB, 2006 - 2008

archived at www.Business-and-Technology.com. Guests included the Outreach Coordinator for the CIA's In-Q-Tel Venture Capital firm, as well as many other business and technology leaders.

President, Chief Financial Officer, and Board Member, Offshore Creations, Inc., 2003 – 2005
[acquired by BOSSdev, Inc.]

Offshore Creations, Inc. was a publicly traded [Ticker symbol OFSC:PK] 130-person US-based multinational software engineering firm. OSC and its successor business supply IT products and services, web services, and static art and animation to more than 100 customers from the US and Europe, including Disney, Warner Brothers, the DHS, the US Navy, the US Army, the German Air Force, and Brunswick Corporation. The company also supports a 220-bed orphanage in the Crippleman Peninsula [www.OrphansHope.org].

- Took the company public. Designed the capital structure and accounting system, authored the internal financial processes, trained the financial staff, and managed all finances and audits
- Did all US regulatory agency reporting and liaison, including SEC and NASD reporting responsive to GAAP standards. Authored the company's Form 10, including the MD&A.
- Developed and implemented the managerial accounting standards, performance metrics, job costing standards, and related accounting standards.
- Created finance instruments, primarily debentures, managed all finances in the company's merger.

Expert Witness in private practice, 1993 –: Intellectual property, technology, forensics, valuation

Financial Controller and Management Consultant in private practice, 2002 - 2003

Senior Program Manager, 3DstockCharts.com, 2000 – 2001

3DstockCharts.com produced real-time 3-D displays of Level-2 stock prices on the major Electronic Communication Networks [ECNs]. The site was used by stock traders worldwide.

Duties: Project and engineering management, identification of patentable technologies.

Lead Expert Witness, Software Development, *Microsoft vs Commissioner of Internal Revenue* [US Tax Court Docket Number 16878-96], 1999 - 2000

I was the IRS's lead expert for software development issues in the largest tax case ever litigated by any jurisdiction in history. I authored four expert witness reports admitted into the record. The Government won the case in trial court, and my arguments were incorporated into the Court's opinion.

Research & Development Manager, Biopac Systems, Inc., Goleta, CA, 1999 - 2000

Biopac Systems manufactures a line of medical instruments for research and education.

Duties: Management of the newest release of the core product; establishment of the Quality Assurance department; creation of software development life cycle / ISO 9001 procedures.

Vice President, Emulation Systems, Inc., Santa Maria, CA, 1998

Emulation Systems, Inc. built aircraft and truck simulators for use in the US Government, civilian training, and entertainment industries. The company's simulator product is on permanent display at the Oakland Aviation Museum [<http://www.oaklandaviationmuseum.org/>].

Duties: Management of Engineering, R&D, budgeting, and Customer Support.

Vice President, Chief Technology Officer, Typhoon Software, Santa Barbara, CA, 1992 - 1997

Typhoon Software, Inc. was the world's largest supplier of outsourced Russian software talent, with 80 employees and offices in St. Petersburg, Russia, Santa Barbara, CA, and Agana, Guam, performing 57 projects for 41 U.S. customers over 5½ years, including 7 Fortune 500 companies.

Duties: Marketed and sold every original project Typhoon ever produced, and had primary management responsibility for all of them. Oversaw the company's trade show presence at 7 COMDEX shows, personally met with 300 prospective customers, and successfully closed 41. Managed the following projects: 35 engineers in a multi-year effort for Harris Digital Telephone Systems, including white-box development of a prepaid phone card system for MCI installed in Istanbul, Dohar, Beijing, and Toronto; development of the world's most successful PLM-to-C translator; a successful 8-person, 4-month proposal for a \$7.5 million rewrite of the entire Guam government accounting software environment; and development of the Novell Networks voice recognition API, SRAPI 1.0, 1.1, and 2.0.

Director of Federal Systems Division, ExperTelligence, Inc., Santa Barbara, CA, 1990-1991

ExperTelligence, Inc. was a creator of artificial intelligence software, LISP language products, and was an early pioneer in visual object oriented tool development.

Duties: Managed the largest object-oriented hypertext software development ever undertaken at the time for the US Government, Dynamic Documents™, for an Intelligence Community customer.

SELECTED EARLIER EXPERIENCE

Physicist, Member of Technical Staff, General Research Corp., Santa Barbara, CA / the Pentagon

Research in electromagnetic scattering, neutron transport, nuclear weapons effects, counterterrorism, automated polygraphy and electrophysiology, and Strategic Defense Initiative technology.

Test Engineer (contractor), Hughes Aircraft Santa Barbara Research Center

Engineer for creation of the Interim Microphonics Test Set [IMTS] used to test the InSb-based SBRC Common Module during Stirling engine operation. Engineer for SBRC FPS test equipment suite.

Test Engineer (contractor), Nanometrics, Inc.

Engineer for creation of an optical inspection system for wafer fabrication processes.

President and Chief Pilot, Norris Airways

Created and operated an aircraft fixed base operation ("FBO"), FAR 135 Air Taxi, and Cessna dealership with 14 employees, including 9 pilots, 3 departments, and 11 aircraft.

CEO, Norris Associates, Environmental Consultants

- Created and operated an environmental and engineering consulting firm. Projects included residential developments, a proposed nuclear power plant in Omaha, NE, a sewage system in Los Angeles, CA, and oil drilling offshore Orange County, CA.
- Was Chief Scientist for the creation of the Oil Spill Contingency and Emergency Plans [OSCEPs] for the Chevron oil platforms in the Santa Barbara Channel, and created fuzzy set simulations of governmental decision making.

CEO, Gasohol, Incorporated

Organized the first modern wholesale and retail gasohol company west of the Mississippi, with 8 investors and 10 employees at 2 sites. Wholesale customers included the U.S. Navy.

Computer Systems Analyst, Vandenberg AFB, Edwards AFB, General Motors Delco Division, Raytheon Electromagnetic Systems, AlliedSignal Corporation, and others

Computer software development for aerospace, national defense, and commercial projects.

Physicist, Rockwell Science Center

Performed published research on moon rocks returned from Apollos 11 and 12, on planetary atmospheres, and on Big Bang residual glow. Also performed research for the first Environmental Impact Statement ever written in the state of California.

EDUCATION, CERTIFICATIONS, and LICENSES

- University of California, Santa Barbara: B.A. Physics
- University of California, Santa Barbara: Courses leading to designation as a CPA
- Microsoft Certified Professional [MCP+I] designation
- Project Management Professional [PMP] designation
- Certified Scrum Master [CSM] agile project management certification
- University of Texas, Austin: Professional Certificate, HAZOPS and Risk and Management
- Defense Department Industrial Security Institute, Honolulu, HI: Security Management Certificate
- University of California, Santa Barbara: Post-graduate work in Advanced Mathematics and Physics, Human Factors, and Ergonomics
- FAA Airline Transport Pilot; Ground Instructor, Parachute Rigger, former CFII/ASMEI
- California Community College Lifetime Designated Subject Teaching Credential, Aviation
- California K-12 Lifetime Designated Subject Teaching Credential, Aviation

SELECTED COMMUNITY EXPERIENCE

Candidate, United States Congress, 19th Congressional District, State of California, 1986

Was elected as my party's nominee for Congress in a 3-way election on June 5, 1986. Was defeated in November by a 7-term incumbent of the other party. Served as an ex-officio member of my party's Central Committee for 2 years as a result of that contest.

President, Board President, Mothers Against Drunk Driving Santa Barbara Chapter, 1982 - 1988

Elected President of the Santa Barbara County Chapter of Mothers Against Drunk Driving in 1982, two years after the MADD's founding. Served as President for 2 years and Chairman of the Board for 4. Pioneered the then-new concept of vehicle donations for fundraising, opened the first staffed office, and created 27 radio and 7 TV commercials and the first bilingual sober driving literature.

AFFILIATIONS

- American Physical Society [APS]
- American Association for the Advancement of Science [AAAS]
- Association of the United States Army, Life Member [AUSA]
- Association for Corporate Growth, 101 Corridor Chapter [ACG 101]
- National Defense Industrial Association [NDIA]
- Institute of Electrical and Electronics Engineers [IEEE]
- Association of Old Crows [AOC]
- Forensic Expert Witness Association [FEWA]
- Project Management Institute [PMI] – Santa Barbara Chapter Director
- Scrum Alliance
- Lions Club International
- Santa Barbara Chamber of Commerce
- Santa Barbara Science and Engineering Council

PATENTS

- US 7,573,044 *B2 Remote Detection Of Explosive Substances* GRANTED 8/11/09 - Priority 7/18/06
- US 8,080,808 *Remote Detection Of Explosive Substances* (CIP 7,573,044) GRANTED 12/20/2011
- US 8,288,734 *Remote Detection Of Explosive Substances* CIP GRANTED 10/16/2012
- US 8,357,910 *Background Signal Reduction In Neutron Fluorescence...* GRANTED 1/22/2013
- US 8,410,451 *Neutron Fluorescence with Synchronized Gamma Detector* GRANTED 4/2/2013
- *Thermal, Epithermal And Cold Neutron Beam Forming Using Momentum* PENDING
- *Low-Cost, Organic-Scintillator Compton Gamma Ray Telescope* PENDING [with K.N. Ricci, B. Paden]

PUBLICATIONS

- "Time-Resolved Emission Spectroscopy in Acetylene/Oxygen Explosions", *Combustion and Flame Journal*, February 1970 (with R.J. Oldman and H.P. Broida)
- "The Brightness Temperature of the Terrestrial Sky at 2.69 GHz", *Journal of Atmospheric Physics*, October 1972 (with W.W. Ho, G.M. Hidy, M.J. Van Melle, W. Hall, and H. Wang)

PRESENTATIONS:

I have conducted technical presentations or invited talks before the following venues:

- US Minerals Management Service
- US Coast Guard
- California Department of Fish & Game
- Joint Improvised Explosives Device Defeat Organization (JIEDDO)
- Deputy Chief Scientist of the US Army
- Defense Threat Reduction Agency (DTRA)
- Technical Services Working Group (TSWG)
- Department of Homeland Security (DHS)
- FAA Transportation Security Laboratory (FAA-TSL)
- US Naval Postgraduate School (NPS)
- Defense Advanced Research Projects Agency (DARPA)
- Association of the United States Army (AUSA)
- In-Q-Tel / Central Intelligence Agency
- Army Communications-Electronics Research, Development, and Engineering Center (CERDEC)
- Oak Ridge National Laboratories / Radioisotope Engineering Development Center (ORNL/REDC)
- Representatives Joe Knollenberg (MI-9, ret'd), Lois Capps (CA-23), and G.K. Butterfield (NC-1)
- Senators Debbie Stabenow (Mi) and Bill Nelson (Fl)
- House Armed Services Committee (HASC) technology staff
- Senate Armed Services Committee (SASC) technology staff
- Keiretsu Forum
- Tech Coast Angel Forum

SOFTWARE ENGINEERING and SCIENTIFIC RESEARCH EXPERIENCE DETAILS:

SUMMARY: I have been involved in software development since 1959, and in the industry since 1969. In addition, my career as a research physicist began in 1969 and lasted for many years.

Chief Scientist, SEDS, LLC and BOSSdev, Inc., family of companies

Chief Scientist / Program Manager of a patented Improvised Explosive Device [IED] detect/defeat system using Thermal Neutron Activation Analysis. Successful tests were performed at the Radiochemical Engineering Development Center at Oak Ridge National Laboratories [REDC/ORNL] and our laboratories. Awarded a Congressional add contract.

Formerly Chief Scientist for BOSSdev's line of millimeter and terahertz microwave security cameras, which detected hidden liquid and solid explosives under clothing without invading personal privacy: Interviewed on CNN's *Anderson Cooper 360* on August 10, 2006 about this camera system and its capabilities as a result of the disclosure of the London bomb plot.

Granted US Patents 7,573,044, 8,080,808, 8,288,734, 8,357,910, and 8,410,451 for gamma ray sensing and neutron particle beam remote detection of explosives.

Principle or co-inventor of 2 patents pending in neutron and gamma ray physics

Project Manager, US Army Supply Chain Improvement, for TARDEC/TACOM

I wrote the successful proposal for an advanced Federated Database integration tool to simplify condition-based maintenance, predictive maintenance, and vehicle condition monitoring for the Army's line of HMMWV vehicles. I managed the project for its startup, prior to being given leadership of a larger business unit.

Systems Consultant, Kinko's, Inc. Corporate Headquarters, Ventura, CA

I developed Visual Basic and ACCESS database tools for analysis of payroll and compensation issues related to corporate mergers and restructuring.

Systems Consultant, Lawyer's Support Systems, Santa Barbara, CA

I developed TAPI-2 voice response systems in C and Visual Basic.

Systems Consultant, Allied Signal Corporation, El Segundo, CA

I designed and wrote an automated requirements traceability matrix tool for NASA's International Space Station Alpha engineering support. The tool featured a parser and database engine, and was developed in ACCESS and VBA.

Senior Programmer, Infogenesis Corporation, Goleta, CA

I developed a range of software to support electronic cash registers for the restaurant and hospitality industry, including IBM 4680 Store Systems, PCs, and AS-400s. Applications include database, systems, installation configuration management, exception handling.

Senior Scientist, Morton Associates, Inc., Santa Barbara, CA

I wrote Oil Spill Emergency and Contingency Plans (OSCEPs) and related documents. I was the Senior Scientist and Principal Author of the OSCEPs for 8 offshore oil platforms operated by Chevron. I did process-plant risk analyses and wrote oil spill emergency response software and training multimedia presentations on Macintoshes and PCs using

Macromind Director. I authored the *Commercial Fisheries Handbook for Proposed Exploratory Drilling Operations, Cavern Point Unit*, and was a contributing scientist in related documents. I also performed asset evaluation for oil leases offered for sale.

Independent Consultant, Santa Barbara, CA

- I wrote INSP, an air quality regulatory compliance Management Information System [Unocal, Inc.]
- I wrote the computer program, ECNA, Enhanced Criminal Network Analysis. ECNA is used by over 10,000 law enforcement personnel worldwide. [Anacapa Sciences, Inc.]

Member of the Technical Staff, General Research Corporation, Santa Barbara, CA, Hollister, CA, McLean, VA, and Alexandria, VA [Technical projects]

I performed the duties of a staff physicist, as well as performing management and marketing functions [*discussed earlier under MANAGEMENT EXPERIENCE*].

- Analysis of Soviet nuclear and conventional land/air threats and NATO and SDIO responses.
- Signal detection analysis. Research on the system dynamics of the formation of dissident, terrorist, and criminal groups, based on management science and critical systems approaches.
- Computer simulation of heat flow, magnetic fields, electromagnetic scattering, and neutron transport.
- Numeric-based AI analysis of electrophysiologic data and other observable human signals, including facial microgestures and voice spectral and discourse content.

Independent Consultant, Santa Barbara, CA

- Systems analysis of missile range safety software for Vandenberg AFB [Control Data Corp.]
- Software development for an optical measurement system [Nanometrics, Inc.]
- Hardware/software engineering for infrared detector testing [Santa Barbara Research Corp.]
- Software development for a color touch screen computer [Santa Barbara Laboratories]
- Deterministic simulation of fire control system for the M-1 tank [Delco Systems, Goleta]
- Simulation of power characteristics for the Lycoming O-235 aircraft engine [Santa Barbara Designs]
- Development of shipboard fire control software [AN-SLQ-32] [Raytheon]
- Development of real estate multiple listing database and print management software [DA-Com, Santa Barbara, CA]

Senior Programmer, ITT Federal Electric Corp., Vandenberg AFB, CA

Development of missile range safety and auto-destruct software

Senior Programmer, Informatics, Inc., Jet Propulsion Laboratories, Pasadena, CA

Development of telemetry and command software for support of NASA deep space probes from the world-wide Deep Space Network [DSN] antenna array.

Physicist, Rockwell International Science Center, Thousand Oaks, CA

Microwave remote sensing. Mössbauer studies of lunar rock from Apollos 11 and 12. Microwave studies of the earth's atmosphere. Studies of crystal growth in gels.

SUMMARY OF ENVIRONMENTS AND CUSTOMERS (California except as noted)

3DStockCharts.com, Santa Barbara	Kirtland AFB, NM
Advanced Scientific Concepts, Santa Barbara	Koval Technologies, Simferopol, Ukraine
AlliedSignal Aerospace, Torrance	McCloskey Group, Inc., Santa Barbara
Anacapa Sciences, Santa Barbara	McDonnell Douglas Corp., Huntington Beach
Biopac Systems, Inc., Goleta	Morton Associates, Santa Barbara
BOSSdev/BOSSgov family of companies	Nanometrics Corp., Sunnyvale
Control Data Corp., Sunnyvale	Oceanographic Services, Inc., Santa Barbara
DefenderTech International Systems, Inc.	Offshore Creations, Inc.
Domain Names International	Raytheon, Goleta
Ecomar, Inc., Santa Barbara	Rockwell Science Center, Thousand Oaks
Edwards AFB	Santa Barbara Laboratories
Emulation Systems, Inc., Santa Maria	Santa Barbara Research Corp. (Hughes Aircraft)
General Research Corp., Santa Barbara	SEDS, LLC – Chief Scientist
GM Delco, Goleta	Soilmoisture Equipment Corporation
HDR Ecosciences, Santa Barbara	Typhoon Software, Santa Barbara
Infogenesis, Inc.	Unocal, Inc., Orcutt
Internal Revenue Service	United States Government (numerous offices)
Jet Propulsion Laboratory, Pasadena	Vandenberg AFB
Kinko's, Inc. Corporate Headquarters	

SUMMARY OF COMPUTER EXPERIENCE [non-legacy]

Operating Systems:

- Windows
- Linux
- Solaris
- MacOS
- IBM 4680

Applications

- Microsoft Office
- Adobe Illustrator
- Microsoft Project
- Microsoft Visio
- QuickBooks
- Microsoft Front Page

Languages

- C/C++
- Java
- HTML
- Visual Basic / VBA
- Access
- Assembly Language [numerous]
- LISP
- FORTRAN
- COBOL
- SQL

