

## Professional Experience

### International Business Machines, Corp.

*Chief Software Architect, Healthcare & Life Sciences Industry Solutions, Software Group: January, 2006 - current*

- Develop overall Health Information Framework (HIF) architecture to support all HCLS industry solutions, including Patient Centric Networks and the Health Information Exchange (HIE), Payer Claims Modernization and the Health Transaction System (HTS) and Value Driven Compliance. Represent IBM in public forums and conferences on Service Oriented Architectures for HCLS, Business Intelligence and Decision Support and Accountability, Governance and Privacy related to health information and practices.
- Develop solution reference platform to provide compliance for SOA components operating in a healthcare or life sciences environment, including enhancements and extensions associated with enabling partners and customers to develop and deliver open standards-based solutions utilizing IBM middleware, systems and services.

*Senior Specialist, HC&LS Information-Based Medicine Solutions: January, 2005 – December, 2005*

- Provide technical and industry thought-leadership for Information-based Medicine (I-b-M) solutions that integrate phenotypic, genotypic and imaging information for applications in pharmaceutical clinical development (a.k.a. pharmacogenomics), basic research & discovery, clinical decision support including pervasive and bio-medical imaging.
- Enhance revenue growth in emerging business opportunities for global healthcare & life sciences industry sector and SMB accounts in excess of US\$100MM first year revenue across both business and infrastructure solutions.

*Program Executive, Healthcare & Life Sciences Solutions Integrated Industry Solutions: January, 2001 – December, 2004*

- Manage sales for world-wide consulting & software solutions portfolio achieving YTY growth rates of 300% and exceeding objectives (150%) on annual basis within overall objective of US\$4B+ including early adopters of InsightLink™ and DiscoveryLink™ and Clinical Genomics including UCSF, Moffitt Cancer Center and Cleveland Clinic.
- Lead a multi-disciplinary team identifying market requirements, determining technical architecture and feasibility, and collaborating with customers developing Discovery, Development and Regulatory Compliance solutions for pharmaceutical, biotechnology and academic & government customers.

*Development Executive, Global Business Intelligence Solutions: January, 1999 - January, 2000*

- Lead development for world-wide software solutions portfolio of US\$1B+ division revenue and manage a multi-disciplinary team identifying market requirements, determining technical architecture and feasibility, and collaborating with customers developing eCRM solutions for finance, insurance, retail and internet industries.
- Direct world-wide development organization of over eighty staff in USA, Belgium, Ireland, Japan, Korea, and Germany and lead collaborative research, development and business development relationships with customers, business partners and ISV's.

*Manager of Software Development, Global Business Intelligence Solutions: June, 1998 - January, 1999*

- Lead software development organization in design, implementation, delivery, and maintenance of global customer relationship marketing and management software solutions, including DecisionEdge and IntelligentMiner for Relationship Marketing.
- Manage five geographically dispersed departments with fifty total staff.

*Senior Development Manager, net.Mining Solutions: July, 1996 - June, 1998.*

- Conceive, define, develop, and deliver business intelligence software solutions for Internet commerce, advertisement and customer relationship marketing; currently offered from IBM as SurfAid™ Analytics.
- Recruit, hire and lead team of research scientists and development engineers in producing focused solutions utilizing advanced machine learning and data mining techniques; currently offered from IBM as Lotus Discovery Server.
- Present at customer and executive conferences on applications of business intelligence, data mining and machine learning in Internet solutions.
- Form partnerships with internal and external organization to further revenue generation and a total customer solution.

*Information Technology Specialist, Scientific & Technical Systems and Solutions: May, 1995 - July, 1996.*

- Design and develop prototype business intelligence applications: Market Basket Analysis (MBA) for retail POS transaction log analysis and Customer Segmentation Application (CSA) for direct marketing and customer relationship management
- Present business intelligence research, development and application topics to customers, industry analysts and IBM internal executives.
- Collaborate on design and functional specification for IBM IntelligentMiner product in conjunction with IBM Software Solutions, Research and Industry Solutions divisions.

## Professional Experience (continued)

### AllAdvantage Corporation

*Chief Technology Officer, Infomediary Technology Solutions: December, 2000 – December, 2001*

- Deliver technology foundation for standards-based, open source, distributed, peer-to-peer customer relationship management (CRM) solution for next-generation wireless and mobile devices.
- Document market requirements for offerings in high-technology, consumer electronic retail, and travel and transportation industries, including work-flow model and operational cost analysis.
- Participate nationally in customer engagements to identify opportunities, harvest new requirements, and provide technical expertise.
- Author whitepapers, presentations, and lead technical reviews for investors and business partners.
- Manage all intellectual property, including patents and trademarks.

*Vice-President, AllAdvantage.com: January, 2000 – December, 2000*

- Define corporate business intelligence strategy and develop corresponding operational systems for business-to-consumer incentive-based advertising in 13 countries and 7 languages.
- Design, construction, and production of consumer profiling system, including collection and segmentation of web behavior data for 3 million daily participants and multi-dimensional analysis of demographics and transactions for 10 million monthly participants.
- General management responsibilities for the data products and data analysis division including research, solution management, engineering and professional services.

### UCSF Library & Center for Knowledge Management

*Assistant Director for Innovative Software Systems: September, 1992 - May, 1995.*

- Project Manager for [GALEN II](#), a World-Wide-Web based client-server digital library system for accessing published literature, on-line public access catalogs and scientific databases.
- Technical Director of [Red Sage Electronic Journals Project](#), in collaboration with AT&T and numerous health-sciences publishers for the network delivery of electronic journal literature to the faculty, staff and students of the UCSF campus and its affiliates.
- Project Manager for UCSF CalREN Project (ATMN-016): A Model Regional Biomedical Information System: ATM-enabled scientific information distribution.
- Head of Library Systems and Campus Network Liaison to the U.C. Office of the President.
- Member of UCSF IAIMS Network Steering Committee.

### Molecular Simulations, Inc. - Sunnyvale, California

*Senior Systems Scientist: September, 1991 - September, 1992.*

- Implemented object storage and retrieval system for computational chemistry development environment in C++ supporting basic chemistry classes and user-specified data.
- Designed and implemented life-cycle software engineering tools, processes and revision and access control systems for production software development.
- Responsible for all aspects of network and system infrastructure including electronic mail, network news, domain name service, inter-network security and asynchronous data communications.
- Consultant to internal marketing and sales organization for product and customer development and support.

### Innovision Corporation - Madison, WI

*Senior Software Engineer: January, 1991 - September, 1991.*

- Develop real-time image processing software applications for use transportation, manufacturing, and agricultural industries.

### U.W. Madison Computer Sciences Department - Madison, WI

*Research Assistance, September, 1988 - December, 1990.*

- Lead development of object-oriented user-interface for EXODUS database project, including research and development of C++ interfaces for persistent objects.

### Sun Microsystems, Inc. - Mountain View, CA

*Member of the Technical Staff: June, 1989 - September, 1989; June, 1985 - September, 1988.*

- Design and implement graphical user interfaces (GUI) for SunView™ windowing system, operating system utilities for SunOS, and artificial intelligence applications for data analysis.

### U.C. Berkeley Computer Sciences Department - Berkeley, CA

*Research Assistant: June, 1986 - September, 1988.*

- Implement drivers and utilities for Berkeley Software Distribution (BSD) UNIX and X Window System as well as provide general system management and security for Computer Sciences department
- Lead development of POSTGRES object-oriented programming APIs for CommonLISP and InterViews.

## Background Information

- Inventor. US Patents
  1. [5838906](#) - Distributed Hypermedia Method for Automatically Invoking External Application Providing Interaction and Display of Embedded Objects Within a Hypermedia Document
  2. [6100901](#) - Method and Apparatus for Cluster Exploration and Visualization
  3. [6278966](#) - Method and System for Emulating Web Site Traffic to Identify Web Site Usage Patterns
  4. [6230153](#) - Association Rule Ranker For Web Site Emulation
  5. [6260038](#) - Clustering Mixed Attribute Patterns
  6. [6338066](#) - Surfaid predictor: web-based system for predicting surfer behavior
- Collaborator: [The Visible Embryo Project](#)
- Founder: [Eolas Technologies Incorporated](#).
- Married, four children.

## Education

University of Wisconsin at Madison

*Ph.D. candidate - Computer Science, January 1991*

*Master of Science - Computer Science, May 1990*

University of California at Berkeley

*Bachelor of Arts - Interdisciplinary Studies, August 1988*

## Technical Expertise

### Systems

- UNIX (AIX, Solaris, IRIX, LINUX, BSD, SVID); Windows (9X,2K,XP)

### Languages

- C, C++, Java, JavaScript, SGML, XML, LISP, CommonLISP & CLOS, Pascal, Prolog, FORTRAN, BASIC, Smalltalk, SQL

### Protocols

- TCP/IP, DNS, NIS, SMTP, MIME, POP, NNTP, HTTP, FTP, Gopher, WAIS/Z39.50.

## Professional Organizations

[Association for Computing Machinery](#)

[USENIX Association](#)

[IEEE Computer Society](#)

[Internet Society](#)

## Papers

- Doyle, M.D., C.S. Ang, D.C. Martin, [Embedding Interactive External Program Objects within Open-Distributed Hypermedia Documents](#) SPIE '95 Conference, Feb '95
- Doyle, Michael D., D.C. Martin, et. al., "The Virtual Embryo: VR Applications in Human Developmental Anatomy," abstract for presentation at Medicine Meets Virtual Reality II, Interactive Technologies & Healthcare (January 27, 1994; San Diego, CA).
- Ang, Cheong S., D.C. Martin & M.D. Doyle, "[Integrated Control of Distributed Volume Visualization Through the World-Wide Web](#)," IEEE Visualization'94.
- Martin, David, C.S. Ang, M.E. Salomon, B.F. Shang & M.D. Doyle, "[Libraries in the Information Age](#)," Technical Memorandum, Center for Knowledge Management, U.C. San Francisco, 1993.
- Martin, David C., M.E. Salomon, & C.J. McRae, "The Design of an Electronic Library via the World-Wide-Web," presentation to SIGWEB General Meeting (November, 1993; Palo Alto, CA).
- Salomon, M.E and D. C. Martin, " [An Electronic Journal Browser Implemented in the World-Wide-Web](#)," in Proceedings of the Second World-Wide-Web Conference, Chicago, IL
- Martin, David, "PCL – A Meta-Class Framework for POSTGRES Objects in CommonLISP", Technical Memorandum, Electronics Research Laboratory, U.C. Berkeley, 1988.
- Martin, David, "Multi-method Dispatch for Object-Oriented User-Interface Design," Technical Memorandum, Electronics Research Laboratory, U.C. Berkeley, 1987.
- Martin, David, "XCL - X/Common Lisp Interface (Version 10)", Technical Memorandum, Electronics Research Laboratory, U.C. Berkeley, 1986.

## Conferences & Committees

- Scitegic User Group Meeting – Invited Speaker, San Diego, CA; February, 2007
- Accelrys World Conference – Keynote Speaker, Baltimore, MD; November, 2006
- IP and Systems Biology Conference – Invited Speaker, Copenhagen, Denmark; September, 2006
- IBM Academy of Technology – Multi-faceted Search Study (Andre Broder, Watson, Chair); Fall 2005
- IBM Academy of Technology – Information-Based-Medicine Study (Joseph Jasinski, Watson, Chair); Spring 2005
- IBM Research Division Study – Text Analytics (David E Johnson, Watson, Chair); Spring 2005
- Second Brazilian Workshop on Bioinformatics (WOB 2003) – Invited Speaker; Macaé, Rio de Janeiro, Brazil; December, 2003
- ACM Knowledge Discovery in Databases Conference - Invited Speaker; San Diego, CA; August, 1999
- IBM Research Division Study – Web Commerce Analytics (Anant Jhingran, Watson, Chair); Winter, 1998
- IBM DB2 Technical Conference - Edinburgh, Scotland; March, 1997
- Internet World - New York, NY; December, 1996
- SHARE Conference - San Francisco, California; June, 1996
- IBM DB2 Technical Conference - Malaga, Spain; February, 1996
- DB/Expo - San Francisco, CA; May, 1996
- IBM Banking, Finance & Securities Industry Conference - Palm Springs, CA; April, 1996
- IBM Senior Manager Meeting - Rye, New York; February, 1996
- IBM CIO Conference - San Francisco, CA; January, 1996
- IBM CIO Conference - Orlando, FL; December, 1995
- IBM CEO Conference - Dallas, TX; December, 1995
- ANSI CommonLISP Object Standardization Committee; 1989
- X Window Systems Consortium – X10/11 Design & Implementation; 1986-89
- USENET comp.sources.X Moderator; 1986-1988

## References

- Dr. Anant Jhingran, IBM Software Group - Almaden, IBM Distinguished Engineer
- Dr. Shivakumar Vaithyanathan, IBM Research Division - Almaden, RSM
- Dr. William Rapp, IBM Systems Technology Group – Rochester, IBM Distinguished Engineer
- Dr. Bala Iyer, IBM Software Group – Silicon Valley Lab, IBM Distinguished Engineer
- Dr. Laura Haas, IBM Software Group – Almaden, IBM Distinguished Engineer
- Dr. John McPherson, IBM Software Group – Silicon Valley Lab, IBM Distinguished Engineer
- Dr. Robert Montoye, IBM Research Division – Austin, RSM
- Dr. Rakesh Agrawal, IBM Research Division - Almaden, IBM Fellow
- Dr. Barry Robson, IBM Research Division – Watson, IBM Distinguished Engineer
- Dr. Thomas Moran, IBM Research Division – Almaden, IBM Distinguished Engineer
- Dr. Robin Williams, IBM Research Division – Almaden, IBM Fellow
- Dr. Stuart Feldman, IBM Research Division – Hawthorne, IBM Fellow
- Don Haderle, IBM Software Group (Retired), IBM Distinguished Engineer
- Dr. Mir Hamid Pirahesh, IBM Research Division – Almaden, IBM Fellow