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JERRY GAO, Ph.D.

Education	9/1992 – 8/1995	Department of Computer Science and Engineering The University of Texas At Arlington Ph.D. in Computer Science and Engineering
	9/1986 – 12/1989	Department of Computer Science and Engineering The University of Texas At Arlington M.S. in Computer Science and Engineering
	2/1978 - 2/1981	Studied and graduated from Computer Science Department Nanjing University and HeHai University B.S. in Computer Science

Summary of Achievement

- Successful research results & proposals brought out over \$700,000 in 5 years.
- 5 successful industry R&D projects, lead to 5 prototype systems, and 3 industry products.
- Several industrial proposals brought out \$3,000,000 in 3 years.
- **Three technical books**, three edited proceedings and 5 journal special issues, over **90 referred technical research papers** for IEEE, ACM journal papers and International conferences.

Summary of Experience

- 10-year working and consultant experience in software industry and 3-year of management experience.
- 10-year R&D experience on software engineering, Internet-based IT, wireless applications.
- Over 10-year academic teaching and research in Computer Software and Software Engineering, and many years professional training for HP, Cisco, and SJSU MBA program.
- Over 6 year professional training for software and telecommunication companies.
- Extensive knowledge, R&D experience, and working experience in modern software engineering processes, methodologies, test automation and tools, as well as evaluation and measurement.
- Comprehensive knowledge and R&D experience in wireless-based system development for mobile information services, and mobile commerce applications.
- Comprehensive knowledge, R&D experience, and industry practice in Internet-based application system development, testing and deployment in web-based GroupWare, search engine, and e-commerce, including intelligent-based

marketing and advertising systems, negotiation systems, and electronic sales and customer relationship management.

- Working experience on advanced network management systems for telecommunication systems.
- Industry consultant experience for Fujitsu Network Communication System, Inc., Aspect Communication System, Inc., Huawei Technologies Co. Ltd., Intuit and eBay.

Academic Teaching Experience

- Tenured Professor (2007 – Present) Dept. of Computer Engineering San Jose State University, San Jose, U.S.A.
- Adjunct Professor (2009 – Present) Knowledge System Institute, USA
- Tenured Associated Professor (2002 – May 2007) Dept. of Computer Engineering, San Jose State University, San Jose, U.S.A.
- Assistant Professor (9/1998 – 2002) Dept. of Computer, Information, and System Engineering San Jose State University, San Jose, U.S.A.
- 6/1997 – 9/98 San Jose State University, San Jose, U.S.A. Adjunct Professor, Dept. of Computer, Information, and System Engineering
- 9/94/ – 8/95 The University of Texas at Arlington Instructor, Dept. of Computer Science and Engineering

Published Technical Books and Journals

Technical Books:

- ***“Object-Oriented Software Testing”***, published by *IEEE Computer Society Press*, 1998. (Co-edited with Dr. David Kung and Dr. Pie Hsia) This is the first book on this subject in the market 1998.
- ***“Testing and Quality Assurance for Component-Based Software”***, published by Artech House Inc., 2003. (Co-authored with Dr. Jacob Tsao and Dr. Ye Wu). This is the first book on this subject in the market 2003. It has been listed in the publisher’s best-seller list in 2004 and 2005.
- ***“Engineering Wireless-Based Software Systems”***, published by Artech House Publisher, August 2006. (Co-authored with Dr. Simon Shim, Dr. Hsing Mei, and Dr. Xiao Su). This is the first book on engineering wireless application systems on the market.
- ***“Software Test Automation from Components to Systems”***, contracted with Wiley, 2007, will be published in 2010.

Journal and Conference Proceeding Editing:

- Co-Editor for the Proceedings of **Second IEEE International Workshop on Wireless Commerce and Services**, Published by IEEE Computer Society, in

July 2005.

- Co-Editor for the Proceedings of the **Eighth International Conference on Young Computer Scientists (ICYCS 05)**, published in Sept. 2005.
- Co-Editor for the Special Issue on Wireless Commerce and Services in **Journal of E-Commerce Research and Application**, published in 2006.
- Co-Editor for the Special Issue on Testing and Quality Assurance for Component-Based Software for the **International Journal of Software Engineering and Knowledge Engineering**. This special issue was published in Volume 17, No. 3, 2007.
- Co-Editor for the Special Issue on Mobile Commerce and Services in **Journal for Theoretical and Applied Electronic Commerce Research**. This special issue was published in Volume 2/Issues 2, August 2007.

Research Articles in Peer-Reviewed and Archived Journals and Magazines:

- Jerry Gao, et al., “A Barcode-Based Mobile Payment System” (Journal Version), Submitted to Pervasive and Mobile Computing (Journal), 2009.
- Jerry Gao and Karen Kwok, “Model-Based Test Complexity for Software Installation Testing”, Submitted to Journal of Software and Systems, 2008.
- Prarthan bhatt, and Jerry Gao, “A Survey on Mobile Middleware”, Submitted to the special issue for The electronic Journal on E-Commerce Tools and Applications (eJETA), 2008.
- Jerry Gao and Angela Ji, “SmartMobile-AD: An Intelligent Mobile Advertising System” (Journal Version), Accepted by **International Journal of Mobile Computing and Multimedia Communications (IJMcMc)**, 2009.
- Norav Jobanputra, Vijayendra Kullkarmi, Dinkar Rao, and Jerry Gao, “Emerging Security Technologies for Mobile User Accesses”, Published by the electronic Journal on E-Commerce Tools and Applications (eJETA), January Issue, 2009.
- **Jerry Gao**, Axel Küpper, **Special Issue on Mobile Commerce**, Editorial, Journal for Theoretical and Applied Electronic Commerce Research, August 2007, <http://www.jtaer.com/>
- **Jerry Gao**, Axel Küpper, **Emerging Technologies for Mobile Commerce**, Editorial, Journal for Theoretical and Applied Electronic Commerce Research, August 2006, <http://www.jtaer.com/>
- **Jerry Zeyu Gao.**, Jacky Cai, Min Li, and Sunitha Magadi Venkateshi, “**Wireless Payment – Opportunities, Challenges, and Solutions**”, Published by **High Technology Letters**, Vol. 12, ISSN 1006-6748, 2006.

- Harris Mohamed Yunos, **Jerry Gao**, Simon Shim, "Opportunities and Challenges in Wireless Advertising", *IEEE Computer*, May 2003.
- **Jerry Gao**, et. al, "Managing Problems for Global Software Production – Experience and Lessons", *Journal of Information Technology and Management*, issue 1, January 2002.
- **Jerry Gao**, et. al, "Tracking Software Components", *Journal of Object-Oriented Programming*, August/September 2001.
- S. Shim, V. Pendyala, M. Sundaram, and **Jerry Gao**, Business to Business Electronic Commerce Frameworks, Special issue on E-commerce in *IEEE Computer*, Vol. 33, No. 10, October, 2000.
- **Jerry Gao**, C. Chen, Y. Toyoshima, D. Leung, "Engineering The Internet for Global Software Production", *IEEE Computer*, Vol. 32, No. 4, May 1999.
- **Jerry Gao**, C. Chen, Y. Toyoshima, D. Kung, and P. Hsia, "Identifying polymorphism change and impact in OO software maintenance," *Journal of Software Maintenance: Research and Practice*, Vol. 8, No. 6, Nov./Dec, 1996.
- D. Kung, **Jerry Gao**, P. Hsia, F. Wen, Y. Toyoshima, and C. Chen, "On regression testing of object-oriented programs," *Journal of Systems and Software*, Vol. 32, No. 1, pp. 21-40, Jan. 1996.
- D. Kung, **Jerry Gao**, P. Hsia, Y. Toyoshima, and C. Chen, "Class firewall, regression testing, and software maintenance of OO systems," *Journal of OO Programming*, pp.51-65, May 1995.
- D. Kung, **Jerry Gao**, P. Hsia, Y. Toyoshima, C. Chen, Y. S. Kim, and Y. Song, "Developing an OO software testing and maintenance environment," *Communications of the ACM*, Vol. 38, No. 10, pp. 75-87, October 1995.
- P. Hsia, J. Samuel, **Jerry Gao**, D. Kung, Y. Toyoshima, and C. Chen, "A formal approach for scenario analysis," *IEEE Software*, Vol. 11, No. 2, pp. 33-41, March 1994.

Referred Articles in Book Series:

- Jerry Gao, Xiaoyang Bai, and Wei-Tek Tsai, "Understanding the Testability of SOA-based systems", Collected in the book, titled as "Engineering of SOA-Based Systems", which is scheduled to be published by Springer Large Publisher in 2009.
- Jerry Gao, Jacky Cai, "Wireless Payment and Systems", Collected in the book, titled as "**Handbook on Mobile and Ubiquitous Computing: Innovations and Perspectives**", which is published by the American Scientific Publishers in 2007.

- Magdalene Ting and Jerry Gao, “Web-based Authoring Tool for e-Salesman System”, Proceedings of the 2005 **IFIP International Conference on Embedded And Ubiquitous Computing (EUC-05)**, Nagasaki, Japan, 6-9 December 2005. Published by Springer's Lecture Note in Computer Science (LNCS).
- *Jerry Gao*, Kamal Gupta, Shalini Gupta, and Simon Shim, “On Building Testable Software Components”, **Proceeding of International Conference on COTS-Based Software Systems (ICCBSS)**, Orlando, Feb. 2002. Published by Springer's Lecture Note in Computer Science (LNCS).
- D. Kung, **Jerry Gao**, P. Hsia, C. Chen, and Y. Toyoshima, “A test strategy for object-oriented systems,” Collected in the book, titled as “**Object-Oriented Software Testing**”, **IEEE Computer Society Press**, 1998.
- D. Kung, **Jerry Gao**, P. Hsia, Y. Toyoshima, C. Chen, Y. S. Kim, and Y. Song, “Developing an OO software testing and maintenance environment,” Collected in the book, titled as “Object-Oriented Software Testing”, IEEE Computer Society Press, 1998.
- D. Kung, **Jerry Gao**, P. Hsia, C. Chen, and Y. Toyoshima, “Change impact identification in object-oriented software maintenance,” Collected in the book, titled as “**Software Change Impact Analysis**” (Edited by Robert S. Arnold and Shawn A. Bohner), IEEE Computer Society Press, 1996.

Publications on Internet-Based Systems and Wireless Applications:

Research Papers in Referred International Conferences and Workshops

- Jerry Gao Vijayendra Kulkarni, Himanshu Ranavat, Lee Chang, and Hsing Mei “A 2D Barcode-Based Mobile Payment System”, Proceedings of the 3rd International Conference on Multimedia and Ubiquitous Engineering (MUE2009), published by IEEE Computer Society Press. This paper is received the **best paper award** from MUE2009.
- Jerry Gao and Angela Ji, “SmartMobile-AD: An Intelligent Mobile Advertising System” (Conference Version), appear in the Proceedings of The Fourth International Workshop on Mobile Commerce and Services WMCS08. Proceedings of GPC-2008 Workshops, Kunming, China, May, 2008. IEEE Computer Society Press.
- **Jerry Zeyu Gao**, Lekshmi Prakash, and Rajini Jagatesan, “Understanding 2D-BarCode Technology and Applications in M-Commerce – Design and Implementation of A 2D Barcode Processing Solution”, The First IEEE International Workshop on Engineering Mobile-Based Systems and Applications (EMOBS2007), Beijing, July, 2007. Published in the in the proceedings of the 31st Annual International Computer Software and Applications Conference (COMPSAC2007).
- **Jerry Gao**, Gauri Durve, Sirisha Alam, and Simon Shim, “Wireless-Based

Multimedia Messaging System”, The Proceedings of The Third IEEE International Workshop on Mobile Commerce and Services (WMCS06), San Francisco, June 26-29, 2006. IEEE Computer Society Press, 2006.

- **Jerry Gao**, Jacky Cai, Kiran Patel, Simon Shim, “A Wireless Payment System”, Proceedings of The 2nd International Conference on Embedded Software and Systems (ICCESS’05), Xian, China, December, 16-18, 2005. Published by IEEE Computer Society Press.
- **Jerry Gao**, Li Ming, Sunita MV, and Jacky Cai, “Wireless Payment”, Proceedings of the 8th International Conference for Young Computer Scientists (ICYCS’05), Beijing, Sept. 20-22, 2005.
- **Jerry Gao**, et al., “P2P-Paid: A Wireless Payment System on Mobile Phones”, Proceedings of the Second IEEE International Workshop on Wireless Commerce and Services, Munich, Germany, July 18-19, 2005. IEEE Computer Society Press.
- **Jerry Gao**, Mansi Modak, Satyavathi Dornadula, Simon Shim, “Mobile Jabber IM: A Wireless-Based Text Chatting System”, Proceedings of IEEE E-Commerce Technology, July 6-9, 2004, San Diego, California, USA. Published by IEEE Computer Society Press.
- **Jerry Gao**, Lahary Ravuri, Bharghavi Shree, and Simon Shim, “A Wireless-Based Virtual Salesman System”, Proceedings of IEEE CONSUMER COMMUNICATIONS AND NETWORKING CONFERENCE (CCNC 2004), Las Vegas, U.S.A, January 6-8, 2004. Published by IEEE Computer Society Press.
- Magdalene Ting **and Jerry Gao**, “Web-based Authoring Tool for e-Salesman System”, Proceedings of the 2005 **IFIP International Conference on Embedded And Ubiquitous Computing (EUC-05)**, Nagasaki, Japan, 6-9 December 2005. Published by Springer's Lecture Note in Computer Science (LNCS).
- Magdalene P. Ting, Vishal Seth, and **Jerry Gao**, “The e-SalesMan System”, Proceedings of IEEE International Conference on Information Technology: Coding and Computing”, Las Vegas, NV, U.S.A, April 5-7, 2004. Published by IEEE Computer Society Press.
- William Korbe, Valerie Stanton, and **Jerry Gao**, “iES: An Intelligent Electronic Sales Platform”, Proceedings of International Conference on E-Commerce Research (ICECR2003). Dallas Texas, Oct. 23-26, 2003.
- Vishnu S. Pendyala, Simon Shim, **and Jerry Z. Gao**, “An XML Based Framework for Enterprise Application Integration”, proceedings of IEEE International Conference on E-Commerce (CEC2003), Newport Beach, California, June 24-27, 2003. Published by IEEE Computer Society Press.
- **Jerry Gao**, Eugene Zhu, and Simon Shim, "SVG-Based Web Publishing -

Experience and Comparison", Proceeding of SPIE Internet Image IV, Santa Clara, January 2003.

- Simon S.Y. Shim, Zhaoyuan Zeng, Jerry Gao, "Automatic Generation and Integration of RosettaNet Based On Generic Templates and Components", Proceedings of Fourth IEEE International Workshop on Advanced Issues of E-Commerce and Web-Based Information Systems (WECWIS'02), June 26 - 28, 2002. IEEE Computer Society Press.
- S. Shim, Y. Wang, **Jerry Gao**, I. Chane, and Y. Lee, Template Based SMIL Authoring Tool, SPIE Electronic Imaging 2000, **Internet Imaging**, January 26-28 2000, Vol. 3964, pp.134-142.
- **Jerry Gao**, et al., "A Web-Based Problem Management System: Development Experience and Lessons", The third International Workshop on Software Engineering Over the Internet in June 2000.
- Simon Shim, **Jerry Gao**, "Multimedia Presentation Components in E-commerce", the Second International Workshop on Advance Issues of E-Commerce & Web-Based Information Systems (WECWIS 2000), June 8-9, 2000, pp. 158 - 165.
- Jerry Gao, Cris Chen, and Y. Toyoshima, "Building a Web based Enterprise Infrastructure For Global Software Production", Proceedings of Internal Conferences of Distributed Computing Systems Workshop on Electronic Commerce and Web-based Applications, 1999.
- **Jerry Gao**, C. Chen, and Y. Toyoshima, "Building a Web based Enterprise Infrastructure for Global Software Production", the proceeding of 19th INTERNATIONAL CONFERENCE ON DISTRIBUTED COMPUTING SYSTEMS, 1999.
- **Jerry Gao**, C. Chen, Y. Toyoshima, D. K. Leung, "Developing an integrated testing environment using WWW technology," Proceedings of COMPSAC'97, IEEE Computer Society Press, 1997.

Publications on Software Engineering Topics:

- Jerry Gao, Hema Veeragavathatham, Shailashree Savanur, and Jinchun Xia, "A 2D Barcode-Based Mobile Advertising System", The proceedings of The 21th International Conference on Software Engineering and Knowledge Engineering (SEKE09), Boston, USA, July 1-3, 2009.
- Jerry Gao, Maulik Shah, Mihir Shah, Devarshi Vyas, Pushkala Pattabhiraman, Kamini Dandapani and Emese Bari, "Systematic Risk Assessment and Cost Estimation for Software Problems", The proceedings of The 21th International Conference on Software Engineering and Knowledge Engineering (SEKE09), San Francisco, July 1-3, 2009.

- **Jerry Gao, Karen Kwok, and Todd Fitch**, “Model-Based Test Complexity for Software Installation Testing”, The proceedings of The 20th International Conference on Software Engineering and Knowledge Engineering (SEKE08), San Francisco, July 1-3, 2008.
- **Jerry Gao, et al**, “Building Testable Software Components – A Systematic Approach and Its Experimental Results”, The proceedings of The 20th International Conference on Software Engineering and Knowledge Engineering (SEKE08), San Francisco, July 1-3, 2008.
- **Jerry Gao, Karen Kwok, and Todd Fitch**, “Modeling and Analysis for Software Installation Testing – A Model-Driven Approach”, The Proceeding of The Role of Software Architecture for Testing and Analysis (ROSATEA 2007), Boston, USA, July 9-11, 2007. (Published in Springer’s lecture notes (LNCS)).
- **Jerry Gao, Sujana Tirumalasetti, Chien-Pin Hsu, Yip Cheong, Anne Colendich and Todd Fitch**, “Toward Modeling and Analysis for Software Installation Testing”, The Proceeding of Nineteenth International Conference on Software Engineering and Knowledge Engineering (**SEKE'07**), Boston, USA, July 9-11, 2007.
- **Jerry Gao**, Yumei Wu, Lee Chang, and Sigurd Meldal, “Measuring Component-Based Systems Using a Systematic Approach and Environment”, The Second IEEE Symposium on SOA-Based System Engineering (**IEEE/SESOSE'06**), Shanghai, China, October, 2006.
- **Jerry Gao**, Deepa Gopinathan and Quan Mai, “A Systematic Regression Testing Method and Tool For Software Components”, Proceedings of 30th Annual International Computer Software and Applications Conference (**COMPSAC2006**), Chicago, September 18-21, 2006. Published by IEEE Computer Society Press.
- W. T. Tsai, **Jerry Gao**, Xiao Wei, and Yinong Chen, “Testability of Software in Service-Oriented Architecture”, Proceedings of the 30th Annual International Computer Conference on Software and Applications (**COMPSAC2006**), Chicago, September 18-21, 2006. Published by IEEE Computer Society Press
- **Jerry Gao and Ming-Chih Shih**, “A Component Testability Test Model for Verification and Measurement”, The First International Workshop on Testing and Quality Assurance for Component-Based Systems (**TQACBS05**), Edinburgh, Scotland, July 25-28, 2005. IEEE Computer Society Press.
- **Jerry Gao**, Raquel Espinoza, and Jingsha He, “Testing Coverage Analysis for Software Component Validation”, Proceedings of 29th Annual International Computer Software and Applications Conference (**COMPSAC**

2005), Edinburgh, Scotland, July 26-28, 2005. Published by IEEE Computer Society Press.

- **Jerry Gao**, Chandra S. Ravi, and Espinoza Raquel, "Measuring Component Performance Using A Systematic Approach and Environment", **TECOS 2004** - Net.ObjectDays 2004, Proceedings of The First International Workshop - Testing Component-based Systems, September 27-30, 2004, Erfurt, Germany.
- **Jerry Gao**, "Challenges and Problems in Testing Software Components", Proceedings of ICSE2000's 3rd International Workshop on Component-based Software Engineering: Reflects and Practice.
- **Jerry Gao**, Eugene Zhu, and Simon Shim, "Tracking Software Components", Proceedings of ICSE2000's COTS Workshop: Continuing Collaborations for Successful COTS Development.
- **Jerry Gao**, et al, "Monitoring Software Components and Component-Based Software", the proceedings of The twenty-fourth Annual International Computer Software & Applications Conference (COMPSAC2000), Taipei, Taiwan, October 2000. Published by IEEE Computer Society Press.
- **Jerry Gao**, Kamal Gupta, and Shalini Gupta, "Design for Testability of Software Components", Received the **best paper award** in The 13th International Software / Internet Quality Week (QW2000).
- **Jerry Gao**, "Testing Component-Based Software", STARWEST'99, San Jose, California, 1999.
- David Kung, Pei Hsia, Y. Toyoshima, C. Chen, and **Jerry Gao**, "Object-Oriented Software Testing - Some Research and Development", the proceedings of Third IEEE International High-Assurance Systems Engineering Symposium, Nov. 13-14, Washington, DC, IEEE Computer Society, in 1998. Published by IEEE Computer Society Press.
- **Jerry Gao**, D. Kung, P. Hsia, C. Chen, Y. Toyoshima, "An object state test model: object state transition diagram," Proceedings of CASCON'95, Canada, 1995.
- D. Kung, Y. Lu, N. Venugopalan, P. Hsia, Y. Toyoshima, C. Chen, and **Jerry Gao**, "Object state testing and fault analysis for reliable software systems," Proceedings of 7th International Symposium on Software Reliability Engineering, White Plains, New York, October, 1996.
- D. Kung, **Jerry Gao**, P. Hsia, C. Chen, and Y. Toyoshima, "A test strategy for object-oriented systems," Proceedings of Computer Software and Applications Conference (COMPSAC'05), pp. 239-244, Dallas Texas, IEEE Computer Society Press, August, 1995.
- D. Kung, **Jerry Gao**, P. Hsia, Y. Toyoshima, and C. Chen, "**Tools for testing object-oriented programs**," Proc. of 12th International Conference on Testing Computer Software, Washington D.C., June 13 -15, 1995. IEEE

Computer Society Press, August, 1995.

- **Jerry Gao**, D. Kung, P. Hsia, C. Chen, Y. Toyoshima, "Object state testing for object-oriented programs," Proceedings of COMSAC'95, pp. 232-238, IEEE Computer Society Press, 1995.
- D. Kung, N. Suchak, **Jerry Gao**, P. Hsia, C. Chen, and Y. Toyoshima, "On object state testing," Proceedings of COMPSAC'94 pp. 222-227, IEEE Computer Society Press, 1994.
- D. Kung, **Jerry Gao**, P. Hsia, C. Chen, and Y. Toyoshima, "Change impact identification in object-oriented software maintenance," Proceedings of IEEE International Conference on Software Maintenance, pp. 202-211, IEEE Computer Society Press, 1994.
- D. Kung, **Jerry Gao**, P. Hsia, C. Chen, and Y. Toyoshima, "A testing and maintenance environment for object-oriented programs," Proceedings of CASCON'94, Canada 1994.
- P. Hsia, **Jerry Gao**, J. Samuel, D. Kung, Y. Toyoshima, and C. Chen, "Behavior-based acceptance testing of software systems: a formal scenario approach," Proceedings of COMPSAC'94, IEEE Computer Society Press, 1994.
- P. Hsia, **Jerry Gao**, J. Samuel, D. Kung, Y. Toyoshima, and C. Chen, "Behavior-based integration testing of software systems: a formal scenario approach," Proceedings of 5th International Conference on Systems Integration, 1994.
- D. Kung, **Jerry Gao**, and P. Hsia, "An object-oriented testing and maintenance environment," CASCON'94, Toronto, Oct. 31 - Nov. 3, 1994.
- P. Hsia, J. Samuel, **Jerry Gao**, D. Kung, Y. Toyoshima, and C. Chen, "A formal approach for scenario analysis," *IEEE Software*, Vol. 11, No. 2, pp. 33-41, March 1994.
- D. Kung, **Jerry Gao**, P. Hsia, J. Lin and Y. Toyoshima, "Design recovery of software testing of object-oriented programs," Proceedings of the Working Conference on Reverse Engineering, pp. 202-211, Baltimore Maryland, May 21-23, IEEE Computer Society Press, 1993.

Industry Working and

1/2008 – 3/2009

Huawei Technologies Co. Ltd. China.

Consultant Experience

Contracted Expert Consultant for Testing & QA Service and Training in the following areas:

Component Testing & Quality Control Methods and Processes for Platform-Based Software Components and Middleware.

- Evaluation and Analysis for Software Engineering Process and Engineering Practice
- Identification Testing Problems and Propose Solutions in Component Development Process and Quality Control
- Technical Training for Component Testing Team(s) and Software System

- Contracted consultant projects in design for component and system testability, including requirements, standards, design solutions, and prototypes.
 - o Expert Consultant in Software Component Testability
 - o Expert Consultant in Component Controllability Project
 - o Expert Consultant on Design for Testability and Maintenance for Component-Based Systems
 - o Building testable components and component testing environments

6/2005 – 9/2005 **Huawei Technologies Co. Ltd. China.**

- o Component-Based Software Engineering
- o Component-Based Software Architecture
- o Training Service on Software Reuse and Component-Based Engineering

1/2002 – 12/2002 **Huawei Technologies Co. Ltd. China.**

- Principle Consultant on Systematic Solutions for Enhancement of Testability and Performance Measurement of Real-Time Communication Systems.

Major Responsibility:

- Define enterprise-oriented solution requirements for system testability and performance measurement.
- Design cross-product systematic solutions for tracking and monitor real-time system behavior and performance.
- Define product-oriented system environments and tools to support the solutions.
- Deliver prototype solutions

6/2000 – 10/2001 **ASPECT Communications, Inc. San Jose**
Principle Consultant on E-Business Performance Testing, Metrics, and Tools

Major Responsibilities:

- Define enterprise-oriented performance test strategy and metrics
- Develop product-oriented performance testing methodology for e-business products on the Internet.
- Define performance testing environment and tools
- Write requirements and functional specifications for performance tools
- Write performance and reliability metrics

6/1999 – 5/2000 **Fujitsu Network Systems, Inc. San Jose**
Principle Architecture Consultant on Web-Based Software Engineering Environment

Major Responsibilities:

- Define system infrastructure and architecture for integrated software engineering environment over the Internet.
- Define requirements and functions specifications for software tools
- Write overall system architecture and infrastructure

10/1998 – 5/1999 **Fujitsu Network Systems, Inc. San Jose**
Principle Architecture Consultant on Re-Driven Software Engineering

Major Responsibilities:

- Define reuse-driven software development process.
- Define reuse-driven software development standards
- Conduct and define network management reuse framework architecture and supporting environment
 - Write software engineering requirements for supporting reuse-driven projects.

2/1997 – 9/1998 Fujitsu Network Communications, Inc., San Jose

Technical Manager, Project Lead and System Architect in Software Engineering Department

Major responsibilities:

- Write project proposals and system requirements for new products.
- Manage a team about 10 engineers for product line projects, and play as a project leader.
- Conduct requirement elicitation, and write function and product specifications.
- Conduct technology selection and evaluation for our products.
- Conduct product high-level and detailed design.
- Lead component test, integration test, system test, and performance test.

- Project: “A web-based global problem management system on Internet”
 - Technology used: JAVA J.D.K (1.02 and 1.1), HTML, CGI, CORBA (Orbixweb, Orbix), C++, secured web server, and ORDB (ILLUSTRA).
 - First three engineering releases are Java/CGI based web systems, and one product release.
 - Lead the high-level design, detailed design and implementation.
 - Prepared and written the documents:
 - “Product Specifications For Fujitsu Product Development Environment”
 - “Requirements Specification For A Global Web-Based Problem Management System (PIMS)”
 - “Functional Design Specifications for PIMS”

- Project: “A web-based global test management system on Internet”
 - Technology used: JAVA J.D.K (1.02 and 1.1), HTML, JavaScript, CGI, CORBA (Orbixweb, Orbix), C++, secured web server, and ORDB (ILLUSTRA).
 - First prototype release is a pure CGI-based web system using HTML, Java, JavaScript, and CGI as well as C++ and ORDB. Working on a new product release.
 - The current product release uses CORBA and Java technology.
 - Prepared and written the documents:
 - “Requirements Specifications For A Web-Based Test Management System (TMS)”
 - “Functional Design Specification For A Global Web-Based Test Management System (TMS)”

- Reuse Project: “Software Tracking and Analysis Toolkit for Software Reuse”
 - Wrote: a Project Proposal, and ”Requirements Specifications for Software Tracking and Analysis Toolkit of Software Reuse”

8/1995 – 2/1997 **Fujitsu Network Communications, Inc., San Jose, CA**

Sr. Member of Technical Staff, Technical Leader of Software Engineering R&D group

Major responsibility:

- Research on domain-specific test automation, software engineering methodology, and applications of new technology.
- Technical lead for the development of several R&D prototype systems using Unix, C/C++, Java, WWW (HTML, JavaScript, and CGI), and OO Database (ILLUSTRA).

- Prepared and written the following documents:
- “Feature Specifications for TL1 Message Testing Tool”
- “Basic Design Specifications for TL1 Message Testing Tool (Prototype)”
- “Feature Specifications for Web-based Integrated Testing Environment”
- “Basic Design Specification For Web-based Test Management System (Prototype)”

6/1992 – 8/1995 Software Center For Telecommunications
The University of Texas At Arlington, Arlington Texas

Manager of Software Lab., Research Associate, and Instructor

- Key person and investigator in Founded Software Engineering Research Project on Object-Oriented Program Testing and Maintenance Methodology.
- Manage and supervise 15 master students to develop the first testing and maintenance environment for OO software using C/C++, Motif and X lib.
- Wrote research papers, high-level design documents and conduct review as well as implementations.

2/1991 – 5/1992 IEX Corp., Plano, Texas

Member of Technical Staff, Software Developer

Designed and developed several real-time telecommunication application systems using Unix, C/C++, Sockets, X25, and TCP/IP.

- An automated-call distribution system between AT&T switch and IBM mainframe. The including features are call forward, call routing, conference call, etc.
- A force management system for a call center, including call tracking, staff, scheduling, reporting, statistical analysis, and optimization.

2/1982 – 8/1986 The Nanjing Research Institute of WR, China

Assistant Engineer and Software Developer, in the Computer Center

- Designed and developed a real-time data acquisition, communication & processing system for water resource management applications (flood forecasting, water evaluation, water monitoring)

Invited Talks

Invited Keynotes and Technical Tutorials for International Conferences:

2008 – OMG – RFI – Test Automation Meeting

Invited Talk: “Model-based Software Testing and Automation”

2007 - ROSATEA 2007 - The Role of Software Architecture for Testing and Analysis - The Federated Events (National Workshop) on Component-Based Software Engineering and Software Architecture.

- Keynote address topic: “Component-Based Software Testing and Analysis – Architecture Perspectives”

2007 – The International Seminar on High Confidence of Software Engineering Summer – Invited Talk:

- Topic “Testing Component-Based Software – Architecture Perspectives”

2005 – The 8th Young Computer Scientists (ICYCS’05) in Beijing, China, Sept. 20-22. 2005.

- Keynote address topic: “Engineering wireless-based application systems Markets, Issues, Challenges and Needs”

2004 – The 3rd International Conference on COTS-Based Software Systems, Redondo Beach, California, U.S. A, Feb. 4-8, 2004.

- Tutorial Topic:

“Testing of Component-Based Software – Challenges and State-Of-the-Art Solutions”

2003 – IEEE 18th International Conference on Automated Software Engineering, Oct. 2003, Montreal, Canada.

- Tutorial Topic:

“Testing of Component-Based Software – Issues, Challenges, and Solutions”

Advanced Technical Tutorials (Short Course) for Industry:

2008, May – Huawei Technologies LTD, at Shenzhen, China

- Topic: Model-Based Software Testing and Practice I and II

- Topic: Agile-Based Software Testing and Practice

2006, April – Huawei Technologies LTD, at Shenzhen, China

- Topic: Design for Software Component Testability

2005, Summer– Huawei Technologies LTD, at Shenzhen, China

- Topic: Software Reuse – State-of-the-art

2005, March – Huawei Technologies Ltd. At Shenzhen in China

- Topic: “Component-Based Software Development and Management”

Invited Short Courses and Talks:

June/2009 – Fu Jen Catholic University, Taipei, R.O China

Invited Talks:

Topic: “Software Test Automation – Problems, Solutions, and Future Needs”

Invited Talks:

Topic: “2D Barcode-Based Mobile Commerce Systems”

January/2009 – Huawei Technologies LTD, Shenzhen, China

Invited Talks:

“Service-Oriented Software Testing – Challenges and Issues”

Technical Tutorial Course:

- **“Concurrent Software Testing – Models, Methods, and Solutions”**

- **“Software Usability Testing”**

2007 (Summer Short Course) – Peking University, Beijing, China

- Topic: “Design for Mobile-Based Software and Applications”

2006 – Ming De College of Northwestern Polytechnical University, Xian, China

- Topic: “Education, Training and Research in Testing and Quality Assurance in USA”

2004 – Computer Science Department, Naval Postgraduate School, California, USA

- Topic: *“Testing in the Component Age”*

2002 – Cisco Systems

- Topic: *“Performance Testing for Web-Based Software Systems”*

2000 – ASPECT Communications, San Jose.

- Topic: *“Performance Testing and Measurement for Web-Based Distributed Systems”*

1999 – IEEE Industry Engineering Chapter at San Jose

- Topic: *Introduction to E-Commerce*

1998 – San Jose State University

- Topic: *“Web-Based Software Engineering”*

1997 – Fujitsu Limited in Japan.

- Topic: *“Web-Based Software Engineering Environment”*

1995 – The University Of Texas at Houston

- Topic: *“An Regression Testing Methodology for Object-Oriented Software”*

1995 – The California State University At Fullerton

- Topic: “*An Regression Testing Methodology for Object-Oriented Software*”

1995- Professional Industry Working Group in Dallas

- Topic: “*Object-Oriented Software Testing*”

**Technical and
Professional Activities**

- Program Chair of the 22th International Conference on Software Engineering and Knowledge Engineering (SEKE'09), July 1-3, 2010, San Francisco, USA.
- Co-Program Chair of the 21th International Conference on Software Engineering and Knowledge Engineering (SEKE'09), July 1-3, 2009, Boston, USA.
- Co-Chair of the Second International Workshop on Engineering of Mobile-Based Applications and Network Systems (EMOBS2009), Seattle, USA, July, 2009.
- Co-workshop chair for the Fifth International workshop on Mobile Commerce and Services (WMCS2009), Qingdao, China, June 4-6, 2009.
- Co-Organizer for A Special Program Track on Software Test Automation and Practice for Twentieth of International Conference on Software Engineering and Knowledge Engineering (SEKE'08), San Francisco, USA, July, 2008.
- Co-Organizer and co-chair of the Panel of Software Testing Practice and Automation for the Twentieth of International Conference on Software Engineering and Knowledge Engineering (SEKE'08), San Francisco, USA, July, 2008.
- Program Co-Chair for the Twentieth of International Conference on Software Engineering and Knowledge Engineering (SEKE'08), San Francisco, USA, July, 2008.
- Workshop Co-Chair for the Four International Workshop on Mobile Commerce and Services, at Kunming, China, in May 2008.
- Program Committee Member for The Eighth International Conference on Quality Software, Oxford, UK, October, 2008.
- Program Committee Member for CEC'08/EEE'08, 2008.
- Program Committee Member for 4th Workshop on Advances in Model Based Testing (A-MOST 2008), in Norway, 2008.
- Program Committee Member for the Seventh International Conference on Quality Software, Portland, Oregon, October, 2007.
- Program Track Chair for the Nineteenth International Conference on Software Engineering and Knowledge Engineering (SEKE'07), Boston, USA, July, 2007.
- Workshop Co-Chair for the First International Workshop on Engineering Wireless-Based Systems and Applications (EMOBS2007), Beijing, July, 2007.
- One of the workshop organizers for the First International Workshop on Software Testing for Emerging Technologies (TEST'07), Beijing, July, 2007.
- PC Members for ROSATEA 2007 – The Role of Software Architecture for Testing and Analysis, Italy, 2007.
- Member of Program Committee for the 2nd Workshop on Advances in Model-

based Software Testing (A-MOST'07), co-located with the 18th IEEE International Symposium on Software Reliability Engineering ISSRE 2007.

- PC Member for ROSATEA 2007 - The Role of Software Architecture for Testing and Analysis. The Federated Events (National Workshop) on Component-Based Software Engineering and Software Architecture.
- PC Member for IEEE Joint 8th IEEE Conference on E-Commerce Technology (CEC' 07) and the 3rd IEEE Conference on Enterprise Computing, E-Commerce and E-Services (EEE' 07), Japan, 2007.
- PC Member for IEEE 2007 IEEE International Conference on E-Business Engineering, (2007 IEEE ICEBE/SOAIIC), 2007.
- Co-Chair for the First International Workshop on Evaluation and Evolution of Component Composition (EECC 2006), San Francisco, USA, July 5-7, 2006.
- Session chair and PC member for The Eighteenth International Conference on Software Engineering and Knowledge Engineering (SEKE'06) will be held in Hotel Sofitel, San Francisco Bay, USA, July 5-7, 2006.
- Co-Chair for the Second International Workshop on Testing and Quality Assurance for Component-Based Software (TQACBS'2006) in conjunction with COMPSAC 2006, Chicago, USA, September. 18-21, 2006.
- PC member for The First IEEE International Conference on System Integration and Reliability Improvements, December 6-9, Hanoi, Vietnam (SIRI 2006).
- Member of Program Committee for IEEE 2006 IEEE International Conference on E-Business Engineering, Shanghai, China (2006 IEEE ICEBE/SOAIIC), Oct. 24-26, 2006.
- Member of Program Committee for IEEE Joint 8th IEEE Conference on E-Commerce Technology (CEC' 06) and the 3rd IEEE Conference on Enterprise Computing, E-Commerce and E-Services (EEE' 06), San Francisco, CA, June 26-29, 2006.
- Member of Standing Program Committee for Third IEEE International Workshop on Mobile Commerce and Services (WMCS'06) in conjunction with IEEE ECE 2006.
- Member of Program Committee for the 2nd Workshop on Advances in Model-based Software Testing (A-MOST'06), co-located with the 17th IEEE International Symposium on Software Reliability Engineering ISSRE 2006, November 6-7, 2006 – Raleigh, North Carolina, USA.
- Session Chair for the 2nd International Conference on Embedded Software and Systems, NPU, Xi'an, China, December, 16-18,2005.
- Program Co-chair for The 8th International Conference for Young Computer Scientists (ICYCS'05) in Sept. 20-22, Beijing, China.
- Co-Chair and Session Chair for the First International Workshop on Testing and Quality Assurance for Component-Based Software (TQACBS'2005) in conjunction with COMPSAC 2005, Edinburgh, Scotland, July 25-28.
- Co-Chair and session chair for the second IEEE International Workshop and Mobile Commerce conjunction with IEEE CEC 2005, Munich, Germany, July 18-19, 2005.
- Serviced as an Invited National Science Foundation (NSF) Review Panelist 2004-2005.
- Session-Chair for the 29th Annual International Computer Software and Applications Conference (COMPSAC 2005), Edinburgh, Scotland, July 25-28.

- Co-Chair of the First IEEE International Workshop on Mobile Commerce and Services, conjunction with IEEE ECE International Conference, June 2004.
- Member of Program Committee for Third International Workshop on Advanced Issues of E-Commerce and Web-Based Information Systems (WECWIS 2001)
- Local Arrangement Chair for The Third International Workshop on Advanced Issues of E-Commerce and Web-Based Information Systems (WECWIS 2001)
- Member of Program Committee for *IEEE Requirement Engineering* (ICRE'97)

- Book reviewers for McGraw-Hill Higher Education Science, Engineering & Mathematics (MHHE-SEM) in 2007.
- Book reviewers for book publishers, John Wiley and Sons in 2004
- Book reviewers for Artech House Publishers in 2003
- Technical Editorial Committee Member for Journal of Theoretical and Applied Electronic Commerce Research (JTAER) (URL: <http://www.jtaer.com/>)
- Referee for ACM Transaction of Software Engineering Methodology
- Referee for IEEE Transaction of Software Engineering
- Referee for IEEE Internet Computing
- Referee for Journal of System and Software
- Referee for Journal of Software Maintenance: Research and Practice
- Referee for Journal of Information Systems Frontiers
- Referee for Journal of Information and Technology

Awards Received

- Received the Best Paper Award from the Third International Conference on Multimedia and Ubiquitous Engineering (MUE2009), In Cooperation with the IEEE Computer Society, June 4-6, 2009, Qingdao, China.
- Received the best paper in The 8th International Conference for Young Computer Scientists (ICYCS'05) in Sept. 20-22, Beijing, China
- Named as Global Education Follower by San Jose State University in 2003
- Received the best paper award in The 13th International Software / Internet Quality Week (QW2000).
- Received the best paper award in The Third IEEE International Conference on Requirements Engineering, 1998, Colorado Springs, Colorado, USA.
- 1993-1994 Outstanding CSE graduate student research award for outstanding research on the Ph.D. level.

Global Education Experience

- Proposed and delivered SJSU Faculty Lead Program to offer SJSU students to study and live at Beijing University of Technology in the summer 2008.
- Proposed and delivered SJSU Faculty Lead Program to offer SJSU students to study and live at Beijing University of Technology in the summer 2006.
- Proposed and worked with CMPE department Chair (Dr. Sigurd Meldal) to prepared the joint degree program in M.S. Software Engineering between SJSU and Beijing University of Technology in China. The program has

been approved by the leaders of both schools and WASC.

Research Interest & Projects

- *Modern Software Engineering Topics:*
 - *Component-Based Software Testing and Quality Assurance*
 - *Model-based Software Engineering and Testing Methods*
 - *Service-oriented software production, test, and evaluation*
 - *Software Test Generation and Automation*
- *Modern IT, Mobile Computing, and Wireless Applications*
 - *Digital Intelligent for E-Commerce*
 - *Wireless Information Service Systems and Mobile Commerce*
- *Wireless Security, Validation, and Evaluation*

Thesis and master project supervision

- 8 thesis in topics on Component-Based Software Engineering, Software Testing, and Wireless Commerce.
- 38 master projects (72 students) in software testing, test automation, and component-based software engineering.
- 34 master projects (58 students) in IT technologies, wireless commerce and online commerce.

Academic Teaching Experience

- 2007 – Present San Jose State University, San Jose, U.S.A.
Full Professor, Dept. of Computer Engineering
- 2002 – May 2007. San Jose State University, San Jose, U.S.A.
Associate Professor, Dept. of Computer Engineering
- 9/1998 - 2002 San Jose State University, San Jose, U.S.A.
Assistant Professor, Dept. of Computer, Information, and System Engineering
- 6/1997 – 9/98 San Jose State University, San Jose, U.S.A.
Adjunct Professor, Dept. of Computer, Information, and System Engineering
- 9/94/ – 8/95 The University of Texas at Arlington
Instructor, Dept. of Computer Science and Engineering

Proposed, Developed, Delivered Courses

- Software Test Automation (CMPE296X)
- Design of Wireless-Based Software Systems (CMPE235)
- Design of E-Commerce Systems (CMPE237)
- Design of Web-Based Application Systems (CMPE236)
- Introduction to WWW Technologies (CMPE234)
- Software Quality Testing (CMPE287)
- Computer-Aided Software Engineering
- Software Quality Assurance
- Mobile Programming In Java
- Software Engineering I
- Software Engineering II
- Algorithms and Data Structures with C++
- Object-Oriented Software Testing

- Advanced Object-Oriented Programming in C++
- Object-Oriented Design and Analysis

Professional Teaching Experience

Professional Courses/Short Courses:

- January, 2009, Huawei Technologies LTD, Shenzhen, China
Course Title: Software Testing Techniques
- Spring 2008, IBM Silicon Valley Lab., San Jose, USA
Course Title: *Software Quality Testing*
- Spring, 2006, Intuit, in Mountain View, USA
Course Title: *Software Quality Testing- Advanced Topics*
- 2005, Summer– Huawei Technologies LTD, at Shenzhen, China
Topic: *Software Reuse – State-of-the-art Technology, Issues, Solutions, and Challenges*
- 2005, March – UT Start COM at Shenzhen in China
Topic: *“Testing Component-Based Systems”*
- 2005, March – Huawei Technologies Ltd. At Shenzhen in China
Topic: *“Component-Based Software Production – Development and Management”*
- Summer, 2001, Cisco Systems, in San Jose
Course Title: *Design of E-Commerce Systems*
- Summer, 2000, HP, San Jose
Course Title: *Design of Web-Based Systems*
- 2000, UCLA
Course Title: *Using the Internet for Global Software Production*
- Summer, 1995, University of Texas at Arlington (Professional Summer Courses)
Course Title: *Object-Oriented Software Testing*
Course Title: *Advanced Programming in C++*