

Professor
Dept. of Computer Engineering
College of Engineering
San Jose State University, USA

One Washington Square
San Jose, CA 95192-180
Phone 408924-3904 (o)
Fax 408924-4153 (o)
E-mail: gaojerry@hotmail.com
URL: <http://www.engr.sjsu.edu/gaojerry>

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
Academic 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
	2010 (Summer)	Tsinghua University, China Visiting Professor Computer Science Department National Key Lab.
	2009 – Present	Knowledge Systems Institute (KSI) USA Adjunction Professor, and Business Development and Marketing Director
	2008 (Summer)	Peking University, China Visiting Professor Software Engineering School

Two on-going contracted book projects on:

- (a) "Mobile Cloud Computing"
- (b) "Testing as a Service on Clouds"

Journal and Conference Proceeding Editing:

- x Co-Editor for the Proceedings of IEEE International Symposium on Mobile Computing, Cloud Service and Engineering (MobileCloud2013), March 25-28, 2013
- x Co-Editor for the Proceedings of IEEE 6th International Symposium on Service-Oriented System Engineering (SOSE2011) December, 2011 (CSI/ISIA/CMCI/INSPEC/CA)
- x Hong Zhu and Jerry Gao, Special Issue 'Service-Oriented System Engineering – An Emerging Engineering Discipline', International Journal of Software and Informatics, Volume 7, Issue 2, 2013.
- x Shi-Kuo Chang, Jerry Gao and Paolo Nesi, Special Issue: In Memory of Dan Cooke, International Journal of Software Engineering and Knowledge Engineering (IJSEKE), December, 2011. (CSI/ISIA/CMCI/INSPEC/CA)
- x Co-Editor (with Henry Muccini and Xiaojing Bai) for a special issue on "Software test automation practice and standardization" International Journal of Software Engineering and Knowledge Engineering (IJSEKE), December 2011. (CSI/ISIA/CMCI/INSPEC/CA)
- x Co-Editor for the proceedings of the IEEE Sixth International Symposium on Service-Oriented System Engineering (IEEE SOSE2011), 2011.
- x Co-Editor for the proceedings of The 7th International Workshop on Mobile Commerce and Healthcare Services (WMCS2011), September 21-23, 2011, Hualien, Taiwan.
- x Co-Editor for the proceedings of The 6th International Workshop on Mobile Commerce and Services (WMCS2010) May 12-13, 2010, Hualien, Taiwan.
- x Co-Editor for a special issue on Software the I

Co-Editor for the proceedings of The 4th International Workshop on Mobile Commerce and Services (WMCS2008) Kunming, China, May 25-28.

- x 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. (CSI/ISIA/CMCI/INSPEC)
- x 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. (INSPEC/ISJ/DOAJ/LD/DBLP/ACM Portal/SciELO/CSA/PROQUEST/EBSCO/SCOPUS/DIALNET)
- x Co-Editor for the Special Issue on Wireless Commerce and Services in Journal of E-Commerce Research and Application published in 2006 (INSPEC/ISJ/DOAJ/LD/DBLP/ACM Portal/SciELO/CSA/PROQUEST/EBSCO/SCOPUS/DIALNET)
- x Co-Editor for the Proceedings of Second IEEE International Workshop on Wireless Commerce and Services, Published by IEEE Computer Society, in July 2005. (EI-Index)
(URL: <http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=10558>)
- x Co-Editor for the Proceedings of the Eighth International Conference on Young Computer Scientists (ICYCS 05) published in Sept. 2005.

Research Articles in Peer-Reviewed and Archived Journals

- x Jerry Gao, W. T. Tsai, Tadahiro Uehara, "Mobile Testing Issues, Solutions, Challenges, and Needs", Submitted to IEEE Computer Special Issue on Software Validation, 2013.
- x Chuanqi Tao, Bixin Li, Jerry Gao. "CIA-Based Regression Test Suite Reduction". (72(ec)d(r)-a(i)-e(

Chuanqi Tao, Bixin Li, and Jerry Gao: "A Systematic State-based Approach to Regression Testing of Component-based Software", JOURNAL OF SOFTWARE, VOL. 8, NO. 3, MARCH 2013, Academy Publisher [Index] doi:10.4304/jsw.8.3.560-571

- x ChuanQi , Tao Bi-Xin Li, Jerry Gao, "ModeBased Change Impact Analysis for ComponentBased Software", Accepted by Software Journal (Chinese), 2012,
- x Siriphat Oumtrakul, Natharin Chanuntawaree, Jerry Gao, Hsing Mei, and Frank Zhang " , AdTouch: A 2D Barcode Based Mobile Advertising Service System", Journal of InternetTechnology, Vol. 13 No. 2, P.337-350 (2012/3), 2012(Journal version)

“Wireless Payment– Opportunities, Challenges, and Solutions”Published
by High Technology Letters, Vol. 12, ISSN 1006-6748, 2006

Jerry Gao

Software Testing, IEEE Computer Society Press 1998.(EI-Index)

- x D. Kung, Jerry Gao, P. Hsia, Y. Toyoshima, C. Chen, Y. S. Kim, and Song, "Developing an OO software testing and maintenance environment", Collected in the book, titled as "Object Oriented Software Testing", IEEE Computer Society Press, 1998.(EI-Index) (Citation Count: 98 in Google Scholar)
- x 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.(EI-Index) (Citation count: 144 in Google Scholar)

Research Papers in
Referred International
Conferences and
Workshops

-
- x Jerry Gao, W.T. Tsai, Ray Paul, and Tadahiro Uehara, "Mobile Testing Service (MTaaS) – Infrastructures, Challenges, Issues, and Needs", HASE 2014: 15th IEEE International Symposium on High Assurance Systems Engineering, Miami, Florida, USA: January 9-11, 2014. (Invited Paper by Conference Chair)
 - x Chuanqi Tao, Bixin Li, and Jerry Gao, "Testing Configurable Architectures of Component-Based Software Using an Incremental Approach",

David Kuo, Daniel Wong,,and Jerry Gao, Lee Chang,“A 2D Barcode Validation System for Mobile Commerce”, Proceedings of the 5th International Conference on Grid and Pervasive Computing (GPC2010), LNCS, Springer, Hu: Taiwan, May, 2010.(EIIndex)

- x Jerry Gao, Maulik Shah, Mihir Shah, Devarshi Vyas, Pushkala Pattabhir, Kamini Dandapani and Emese Bari, “Systematic Risk Assessment and Estimation for Software Problems”, The proceedings of The 21th International Conference on Software Engineering and Knowledge Engineering (SEKE09), San Francisco, July 3,-2009..(EI-Indexed)
- x Jerry Gao Vijayendra Kulkarni, Himanshu Ranavat, Lee Chang, “A BarcodeBased Mobile Payment System”, Proceedings of the 3rd International Conference on Multimedia and Ubiquitous Engineering (MUE2009), published

Proceedings of the Second IEEE International Workshop on Wir Commerce and Services, Munich, Germany, July 19, 2005. IEEE Computer Society Press. (EI Index)

- x Magdalene Ting and Jerry Gao, "Web-based Authoring Tool for Salesman System", Proceedings of the 2005 IFIP International Conference on Embedded And Ubiquitous Computing (EU05), Nagasaki, Japan, 9-10 December 2005. Published by Springer's Lecture Note in Computer Science (LN (SCI/DBLP, ZBIMath/CompuServe, core EI Compendex database, FOT, ACM Portal, Scopus, INSPEC)
- x 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 -EI-Index), Edinburgh, Scotland, July 28, 2005. IEEE Computer Society Press.
- x Jerry Gao, Raquel Espinoza, and Jingsha Hu, "Testing Coverage Analysis for Software Component Validation", Proceedings of 29th Annual International Computer Software and Applications Conference (COMPSAC 2005) (EI Index), Edinburgh, Scotland, July 28, 2005. Published by IEEE Computer Society Press.
- x Jerry Ze Gao and Y Wu, (Tutorial) Testing Component-based Software Issues, Challenges, and Solutions, Proceedings of ICCBSS 2004, Lecture Notes in Computer Science, 2004 Springer. ICCBSS 2004, LNCS 2959.
- x Jerry Gao, Chandra S. Ravi, and Espinoza Raquel, "Measuring Component Performance Using A Systematic Approach and Environment", TECOS-2004 Net.ObjectDays2004, Proceedings of The First International Workshop Testing Component-based Systems, September 30, 2004, Erfurt, Germany. (Published by Lecture Notes in Informatics ISBN 3-88579387-3, <http://subs.emis.de/LNI/Proceedings/Proceedings58.html>). (DBLP, ZBIMath/CompuServe, core EI Compendex database, PDF, ACM Portal, Scopus, INSPEC)
- x Jerry Gao, Mansi Modak, Satyavathi Dornadula, Simon Shim, "Mobile Jabber IM: A Wireless-based Text Chatting System", Proceedings of IEEE E Commerce Technology, July-

- Proceedings of IEEE International Conference on Information Technology Coding and Computing”, Las Vegas, NV, U.S.A, April 7-12, 2004. Published by IEEE Computer Society Press. (Index)
- x 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 20-23, 2003.
 - x 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. (EI Index)
 - x Jerry Gao, Eugene Zhu, and Simon Shim, "Web Based Web Publishing Experience and Comparison", Proceeding of SPIE Internet Image IV, Santa Clara, January 2003.
 - x 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 Notes in Computer Science (LNCS). (SCI/DBLP, ZBMath/CompuServe, core EI/Compendex database, ACM Portal, Scopus, INSPEC)
 - x Simon S.Y. Shim, Zhaoyuan Zeng, Jerry Gao, “Automatic Generation and Integration of RosettaNet Based On Generic Templates and Component”, Proceeding of Fourth IEEE International Workshop on Advanced Issues of E-Commerce and Web Based Information Systems (WECWIS'02), June 28-30, 2002. IEEE Computer Society Press. (EI-Index)
 - x Jerry Gao, "Component testability and Component Testing Challenge", Proceedings of ICSE2000's 3rd International Workshop on Component based Software Engineering: Reflects and Practice.
 - x Jerry Gao, Eugene Zhu, and Simon Shim, "Tracking Software Components", Proceedings of ICSE2000's COTS Workshop: Continuing Collaborations for Successful COTS Development. (Citation count: 5 in Google Scholar)
 - x 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. (Index) (Citation count: 33 in Google Scholar)
 - x Jerry Gao, Kamal Gupta, and Shalini Gupta, “Design for Testability of Software Components”, Proceedings of IEEE International Conference on Information Technology Coding and Computing”, Las Vegas, NV, U.S.A, April 7-12, 2004. Published by IEEE Computer Society Press. (Index)

Components”, Received the best paper award in the 13th International Software / Internet Quality Week (QW2000).

- x 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.
- x 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.
- x Simon Shim, Jerry Gao, “Multimedia Presentation Components in E-commerce”, the Second International Workshop on Advanced Issues of E-Commerce & Web Based Information Systems (WECWIS 2000), June 8-10 2000, pp. 158-165. (E-Index)
- x Jerry Gao, “Testing Component Based Software”, STARWEST’99, San Jose, California, 1999.
- x S Shim, Y Wang, I Chane, J. Z. Gao, YJ Lee, “Template based synchronized multimedia integration language authoring tool”, Proceedings of SPIE 1999.
- x Jerry Gao, Cris Chen, and Y. Toyoshima, “Building a Web based Enterprise Infrastructure For Global Software Production”, Proceedings of International Conferences of Distributed Computing-2(1)6a8/04 4t1(e)-2o0oa,2err5utc

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. 113-133, March 1994. (E-Index)

- x D. Kung, Jerry Gao, P. Hsia, J. Lin and Y. Toyoshima, "Design recovery of software testing of object-oriented programs," Proceedings of the Work Conference on Reverse Engineering, pp. 202-211, Baltimore, Maryland, May 21-23, 1993. (E-Index)

Industry Working and Consultant Experience

10/2011 – Present Fujitsu Research Lab. in Japan

Research and Prototyping on Cloud Testing for SaaS Applications.

1/2008 – 3/2009 Huawei Technologies Co. Ltd. China.

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 and Analysis of Testing Problems
- Propose Solutions in Component Development Process and Quality Control
- Technical Training for Component Testing Team(s) and Software System Production Teams on the following subjects:
 - o Middleware architecture and testability
 - o Model-based software testing and practice
- Agile-based software testing and practice Test Methodologies for Domain Specific Software Components Model-based software testing analysis, methods, and practice Agile-based software testing, methods, and practice.

1/2008 – 2/2009 eBay, USA

Technical Consultant and Supervision for Student Collaboration Project – Software Test and Risk Analysis for Problem Resolution in QA Process.

- x Automating Tools for Software Test and Risk Analysis for Problem Resolution.

1/2007 – 12/2007 eBay, USA

Technical Consultant and Supervision for Student Collaboration Project - Web Based Software Test Automation project

- x Test Automation for online system test automation focusing on web-based system GUI test model, open

Expert Consultant in Software Test Automation for Enterprise Solutions

Major responsibility in Project #1 test automation for enterprise software

- Identify major issues and propose the solutions in test automation for enterprise-oriented commonware (platform, common architectures, and middleware)
- Identify and define test models and test coverage criteria for enterprise-oriented software
- Identify and define a change and regression test process, methodology, and tool for enterprise-oriented commonware (platform, common architectures, and middleware)
- Lead and supervise a project team to develop the test automation solution and tool

Major responsibility in Project #2 – test automation for software installation

- Identify major issues and propose the solutions in automatic testing for software installation and patches
- Identify and define test models and test coverage criteria for software installation
- Identify and define a change and regression test process, methodology, and tool for autotesting for software installation.
-

6/1999– 5/2000 Fujitsu Network Systems, Inc San Jose
Principle Architecture Consultant on WebBased 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 webbased 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 (ILLUSTRATION).
 - 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 Webbased Problem Management System (PIMS)"
 - "Functional Design Specifications for PIMS"

- Project: "A webbased 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

- First prototype release is a pure CGI based web system using HTML, Java, JavaScript, and CGI as well as C++ and ORDB. Working on 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. -

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

Architecture Perspectives”

2007 –

2012(Invited Talks)– Northwest University, Xi'An, China

2000– ASPECT Communication San Jose.

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

1999 – IEEE Industry Engineering Chapter at San Jose

- Topic: Introduction to ECommerce

1998 – San Jose State University

- Topic: “WebBased Software Engineering”

1997 – Fujitsu Limited in Japan.

- Topic: “WebBased 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” invited Keynotes and Technical

Technical and
Professional Activities

x Conferene CoChair of I.w 11.0491.04 58.44h0.457 0 (e)3(s.4 4o((-))7(r)-6(o)-2(f)-6

- Practice for Twentieth of International Conference on Software Engineering and Knowledge Engineering (SEKE'08), San Francisco, USA, July, 2008.
- x Co-Organizer and CoChair 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, July, 2008.
- x Program CoChair for the Twentieth of International Conference on Software Engineering and Knowledge Engineering (SEKE'08), San Francisco, July, 2008.
- x Workshop CoChair for the Fourth International Workshop on Mobile Commerce and Services, at Kunming, China, in May 2008.
- x Workshop Co-Workshop @ A34í n""@ • \$ô/@ BtDY8CEJ%OAaž 8C& á d\$ô**1Q .

- Australia, October 26, 2011.
- PC member for SOCMAS11, 2011.
- x PC member for QSIC 2010 Quality of Service Based Systems, 2010.
- x PC member for SOSE2010.
- x PC member for IEEE CEC2009, 2009.
- x PC member for The 2nd IEEE International Workshop on Software Automation (STA 2010)
- x Program Committee Member for The Eighth International Conference Quality Software, Oxford, UK, October, 2008.
- x Program Committee Member for CEC'08/EEE'08, 2008.
- x Program Committee Member for 4th Workshop on Advances in Model E Testing (AMOST 2008), in Norway, 2008.
- x Program Committee Member for the Seventh International Conference Quality Software, Portland, Oregon, October, 2007.
- x PC Members for ROSATEA 2007 The Role of Software Architecture for Testing and Analysis, Italy, 2007.
- x Member of Program Committee for the 2nd Workshop on Advances in Model based Software Testing (AMOST'07), colocated with the 1st IEEE International Symposium on Software Reliability Engineering ISSRE 2007.
- x PC Member for ROSATEA 2007- The Role of Software Architecture for Testing and Analysis. The Federated Events (National Workshop Component Based Software Engineering and Software Architecture.
- x PC Member for IEEE Jointth IEEE Conference on E-commerce Technology (CEC' 07) and the 3rd IEEE Conference on Enterprise Computing, E Commerce and Services (EEE' 07), Japan, 2007.
- x PC Member for IEEE 2007 IEEE International Conference on Business Engineering, (2007 IEEE ICEBE/SOAIC), 2007.
- x PC member for The First IEEE International Conference on Sy Integration and Reliability Improvements, December, 6 Hanoi, Vietnam (SIRI 2006).
- x

- Local Arrangement Chair for The Third International Workshop on Advances in Issues of E-Commerce and Web-Based Information Systems (WECWIS 2001)
- x Member of Program Committee for IEEE Requirement Engineering Conference (IEEE RE'97)
- x Book reviewers for McGraw-Hill Higher Education Science, Engineering and Mathematics (MHHE-SEM) in 2007.
- x Book reviewers for book publishers, John Wiley and Sons in 2004
- x Book reviewers for Artech House Publishers in 2003
- x Technical Editorial Committee Member for Journal of Theoretical and Applied Electronic Commerce Research (JTAER) (URL: <http://www.jtaer.com/>)
- x Referee for ACM Transaction of Software Engineering Methodology
- x

Viewpoint Editor for

- ObjectOriented Software Testing
- Advanced ObjectOriented Programming in C++
- ObjectOriented Design and Analysis

Professional Teaching
Experience