

Jinchun Xia

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SUMMARY OF QUALIFICATIONS

- Seven years of extensive research experience in Software Engineering, Web Services, Quality of Service (QoS) and performance study.
- Strong problem-solving and design skills. Java and C++ development experience in Linux.
- Two years of teaching experience at both graduate and undergraduate levels. Excellent communication skills. Capable of working with people as well as working independently.
- Experience of leading research groups composed of graduate students on various projects. Proven leadership and technical strengths in professional societies.

EDUCATION

Ph.D. in Computer Science, Iowa State University, Ames, IA
M.S. in Cryptography, Southwest Jiaotong University, ChengDu, China
B.S. in Computer Science, Southwest Jiaotong University, ChengDu, China

SKILLS

Programming: Java (JDK, J2EE, JSP, Servlet, RMI), C/C++, VB.NET, UML, HTML, XML, CSS, DHTML
Databases: MySQL, SQL Server
Platforms: Unix/Linux, Solaris, Windows, Macintosh
Tools: Eclipse, Tomcat, Apache, MS Visual Studio, DOORS, Rational Rose

EXPERIENCE

Visiting Professor, Department of Computer Engineering, San Jose State University
August 2008 -- present

- Led 3 graduate students on a grant proposal that proposed a hybrid approach to test service composition. As supporting technologies to testing techniques, runtime-monitoring and logging are used to identify service execution patterns, which contribute to the calculation of testing metrics. This hybrid approach overcomes the challenge of lacking control over component services in the Web Services environment. A National Science Foundation grant proposal was prepared as a result.
- Taught the following courses:
 - Graduate course of "*Enterprise Software Engineering Overview*". The classes discussed design issues of Enterprise software systems, enabling technologies (Client/Server, data warehousing, XML, web technologies, etc.) and software integration.
 - Undergraduate course of "*Software Engineering*".
 - Undergraduate course of "*Data Structure and Algorithm*", which was taught in C++.

Research Assistant, Department of Computer Science, Iowa State University
August 2002 -- July 2008

- Researched and designed a comprehensive solution for service-oriented systems to optimize their performance and availability. The solution contains three parts:
 - 1) A formalism to transform software architecture design into Petri net, which allows software developers to verify their system design and predict system properties at the design stage. Performance bottlenecks can be identified based on the proposed method.

- 2) An algorithm to address the service selection issue. It computes the best composition plan for web services applications based on the generated Petri net model.
- 3) A performance adaptation mechanism to capture performance exceptions and failures and automatically re-compose the service to meet the performance goal.
- Developed an approach to predict software performance. This approach takes UML diagrams, operational profiles, and resources as input, and predicts stochastic behavior and performance of a software system. This work earned a **Best Paper** award from the COMPSAC 2005.
- Collaborated with colleagues to implement a Requirement Traceability tool that automatically traces evolutionary and speculative changes to the software system, hence enables software impact analysis and greatly promotes software maintenance. This work earned a **Best Paper** award from the RE 2002 conference.

Skills: WS-BPEL, UML, Petri net, SOA, DOORS, RationalRose

Instructor, Department of Computer Science, Iowa State University
May 2007 -- July 2008

- Taught the undergraduate course of "*Applied Computer Programming using Visual Basic*".

Departmental webmaster, Department of Computer Science, Iowa State University
January 2005 -- May 2007

- Developed the departmental website and an internal website using JSP, Servlet, MySQL, and Perl on Linux. This website features a front website with dynamic pages and an internal website. The internal website is used to maintain all the faculty performance data and department archives. The back-end system supports XML-based data exchange with other administration systems at the university level.

Skills: Java, JSP, Servlet, MySQL, Perl, XML, CSS, DHTML, Tomcat, Apache, Linux, Solaris

Research Scientist, Research Lab at Maipu Communication Technology, Chengdu, China
January 2001 -- May 2001

- Architected a PKI (Public Key Infrastructure) system. Design the Certificate Authority and the communication protocols as critical components in the PKI system.
- Implemented in C++, security components for routers that interact with the PKI infrastructure.

Skills: C++, PKI, LDAP

Intern, TOP Research, Chengdu, China
October 1999 -- February 2000

- Implemented a CORBA-based Network Management System using MS VC++.

Skills: C++, CORBA, MS Visual Studio

SELECTED AWARDS AND HONORS

- **Computer Science Research Excellence Award** by Department of Computer Science at Iowa State University, 2007 (Awarded to 2 students from 150 graduate students)
- **Best Paper Award**, IEEE 29th Annual Int'l Computer Software and Applications Conf., COMPSAC 2005 (selected from 323 submissions)
- **Best Paper Award**, IEEE Joint Conference on Requirements Engineering, RE 2002 (selected from 266 submissions)
- **Outstanding Graduate** title by Sichuan Province, China, 1998 (about 0.1% award ratio)
- **Second Place** in National Mathematical Contest in Modeling (MCM, China) in 1996

GRANT

- *Hybrid Web Service Testing*, COE New Faculty Development Grant at San Jose State University (2008-2009), funded, \$10,000, Principal Investigator: Jinchun Xia

SELECTED PUBLICATIONS

Book Chapters:

[1] H.I. Yang, R. Bose and S. Helal, J. Xia, C.K. Chang, T.H. Kim, "Fault-resilient Ubiquitous Service Composition", Book Chapter in "Advanced Intelligent Environments," H. Hagrass, Editor, Springer Verlag. 2009.

Journal Papers:

[2] J. Xia, C.K. Chang, J. Wise, and Y. Ge, "An Empirical Performance Study: PSIM", **Computer Journal**, 49(5), Oxford University Press, 2006, pp. 509-526.

[3] H. Jaygarl, K. Oyama, J. Xia, C.K. Chang, " HESA: A Human-Centric Evolvable Situation-Awareness Model in Smart Homes," *Lecture Notes in Computer Science*, Volume 5120, 2008, pp. 153-160.

Conference Papers:

[4] J. Gao, H. Veeraragavathatham, S. Savanur, and J. Xia, "A 2D-Barcode Based Mobile Advertising Solution", Proc. The 21st International Conference on Software Engineering and Knowledge Engineering (SEKE2009).

[5] K. Oyama, H. Jaygarl, J. Xia, C.K. Chang, A. Takeuchi, and H. Fujimoto, "A Human-machine Dimensional Inference Ontology that Weaves Human Intentions and Requirements of Context Awareness Systems," Proc. the 32nd Annual IEEE International Computer Software and Applications Conference (COMPSAC 2008), Beijing, China, July 28-Aug 1, 2008, pp. 287-294.

[6] J. Xia, Y. Ge, and C.K. Chang, "An Empirical Performance Study for Validating a Performance Analysis Approach: PSIM", Proc. the 29th Annual International Computer Software and Applications Conference (COMPSAC 2005), **Best Paper Award**, Edinburgh, Scotland, UK, September 2005, pp. 307-312.

[7] J. Cleland-Huang, C. Chang, G. Sethi, K. Javvaji, H. Hu & J. Xia, "*Automating Speculative Queries through Event-Based Requirements Traceability*", Proc. of the IEEE Joint Conference on Requirements Engineering 2002, **Best Paper Award**, Essen, Germany, Sept. 2002, pp. 796 - 810.

For full publication list, please visit <http://www.engr.sjsu.edu/jxia/>.

PROFESSIONAL ACTIVITIES

International Conference Organization:

- **Workshop Chair**, Mobilware 2010
- **Doctoral Symposium Chair** and **Program Committee member**, IEEE International Computer Software and Applications Conference (COMPSAC) 2009 and 2008

Paper Review:

- IEEE Transactions on Services Computing, 2009
- Journal of Systems and Software (JSS), 2009
- IEEE COMPSAC 2009, 2008, 2007, and 2006
- Fifth IEEE International Conference on Quality Software (QSIC) 2005
- Workshop on Requirements Engineering for Adaptable Architectures (2004)
- International Journal of Software Engineering and Knowledge Engineering, 2004

REFERENCES

Available upon request.