

Seung-Jin Sul

CONTACT INFORMATION	Department of Computer Science and Engineering Texas A&M University 301 Harvey R. Bright Bldg College Station, TX 77843-3112 USA	<i>Voice:</i> (979) 739-5033 <i>Fax:</i> (979) 847-8578 <i>E-mail:</i> sulsj@cs.tamu.edu <i>Web:</i> http://people.cs.tamu.edu/sulsj
OBJECTIVE	Seeking a position in the field of bioinformatics and computational biology with special interests in algorithm and application programming, data-mining, and information processing.	
CITIZENSHIP	South Korea	
RESEARCH INTERESTS	My research interests lie primarily in bioinformatics and computational biology, especially for designing and analyzing algorithms for processing large-scale data. I'm also interested with experimental and empirical performance studies, data-mining and visualization.	
EDUCATION	Texas A&M University , College Station, Texas, USA Ph.D. candidate in Department of Computer Science and Engineering Aug 2005 - present <ul style="list-style-type: none">• Thesis topic: Large-scale analysis on evolutionary trees.• Advisor: Dr. Tiffani L. Williams• Expected graduation date: Dec 2009 Dongguk University , Seoul, Korea M.E. in Computer Engineering, Feb 1996 <ul style="list-style-type: none">• Thesis topic: "Extended RPCGEN(ERPCGEN) : Automatic Conversion of Monolithic Programs for Client-server Model using Program Slicing"• Advisor: Dr. Keum-Suk Lee Dongguk University , Seoul, Korea B.E. in Computer Engineering, Feb 1994	
INDUSTRIAL EXPERIENCE	Biointech , Seoul, Korea <i>Research Manager</i>	Feb 2005 - Jul 2005 <ul style="list-style-type: none">• Designed and implemented fingerprint recognition algorithms.• Developed a fingerprint authentication system on an embedded system using ARM9/StrongARM processor.• Managed S/W development team and supervised five engineers. Daemin Electronics , Seoul, Korea <i>Research Manager</i>
		Oct 2000 - May 2004 <ul style="list-style-type: none">• Developed fingerprint recognition algorithms, fingerprint classification algorithms and security enforcement software using fingerprint recognition.• Designed and implemented Automated Fingerprint Identification System for large fingerprint database.• Developed a time attendance system using fingerprint recognition.• Carried out the process of developing a fingerprint recognition mouse, stand-alone optical fingerprint recognition module, USB fingerprint recognition device, and application software for Windows/Linux.

Metabuild, Seoul, Korea

Internship

Jun 1999 - Oct 1999

- Research title: "XML Document Management System".
- Analysis, design and development of a data distribution and retrieving system for WWW using Java/CORBA and XML language.

PROFESSIONAL
EXPERIENCE

Texas A&M University, College Station, Texas, USA

Graduate Research Assistant

Jun 2006 - present

Includes current Ph.D. research.

Georgia Institute of Technology, Atlanta, Georgia, USA

Visiting Researcher (post-doc)

Dec 2003 - Dec 2004

- Research title: "Robust Pattern Recognition and Biometric Authentication".
- Advisor: Dr. Chin-Hui Lee

Dongguk University, Seoul, Korea

Research Assistant

Mar 1996 - Aug 2000

- Received Ph.D degree in the department of Computer Engineering
- Work with Dr. Lee on distributed systems and system management

Project involved

- "Data Distribution and Retrieval System on the Web using CORBA", Apr 1999 - Oct 1999.
- "Digitization of Korean Traditional Buddhist Texts, 'Hankuk Bulkyo Chonso'", Jul 1998 - Jun 1999.
- "Digitization of Korean Traditional Buddhist Texts, 'Hangul Taejangkyoung'", Aug 1997 - Aug 1998.
- "Analysis on the Standardization of Information Technology", Jul 1997 - Dec 1997.
- "Development of Dongguk Information Bank System", Feb 1996 - Sep 1997.
- "Automatic Timetable Scheduling System for University Class", Oct 1995 - Dec 1997.
- "Development of International Communication Cable Management System", Dec 1994 - Dec 1995.

TEACHING
EXPERIENCE

Texas A&M University, Texas, USA

Teaching Assistant

Aug 2005 - May 2006

Teaching assistant for operating systems class.

Dongguk University, Seoul, Korea

Instructor

Mar 1998 - Nov 2003

Teaching undergraduate classes at the College of Information and Industrial Science of Dongguk University.

Assistant Lecturer

Mar 1995 - Feb 1998

Teaching undergraduate classes at the Department of Computer Engineering of Dongguk University.

Teaching Assistant

Mar 1994 - Apr 1996

TA for classes at the Small Business Training Institute, Ahnsan, Kyunggi, Korea.

PUBLICATIONS

Softwares

HashRF: computing topological distances for large collections of evolutionary trees (<http://code.google.com/p/hashrf/>).

HashCS: computing consensus trees for large collections of evolutionary trees (<http://code.google.com/p/hashcs/>).

Papers (International)

- Journal
 - Seung-Jin Sul, Suzanne Matthews, and Tiffani L. Williams, "Using tree diversity to compare phylogenetic heuristics", *BMC Bioinformatics*, 10(Suppl 4):S3, 2009.
- Conference
 - Seung-Jin Sul and Tiffani L. Williams. "An Experimental Analysis of Consensus Tree Algorithms for Large-Scale Tree Collections," 5th International Symposium on Bioinformatics Research and Applications (ISBRA'09), to appear.
 - Seung-Jin Sul, Suzanne Matthews, and Tiffani L. Williams, "New Approaches to Compare Phylogenetic Search Heuristics," *IEEE International Conference on Bioinformatics and Biomedicine (BIBM'08)*, pp.239 - 245.
 - Seung-Jin Sul and Tiffani L. Williams, "An Experimental Analysis of Robinson-Foulds Distance Matrix Algorithms," *European Symposium on Algorithms (ESA'08)*, pp. 793-804.
 - Seung-Jin Sul, Grant Brammer, and Tiffani L. Williams, "Efficiently Computing Arbitrarily-Sized Robinson-Foulds Distance Matrices," *Workshop on Algorithms in Bioinformatics (WABI'08)*, pp. 123 - 134.
 - Seung-Jin Sul and Tiffani L. Williams, "A Randomized Algorithm for Comparing Sets of Phylogenetic Trees," *The 5th Asia-Pacific Bioinformatics Conference (APBC'07)*, pp. 121- 130, Hong Kong, China, 2007.
 - Seung-Jin Sul and Keum-Suk Lee, "Agent-On-Demand for Distributed System Management," *Proceedings of PDPTA'99*, pp. 666-671, Volume II, CSREA Press, Las Vegas, 1999.

Papers (South Korea)

Joon-Seok Kim and Seung-Jin Sul, "An Efficient Fingerprint Recognition Algorithm for ARM7 CPU," *Proc. of 2003 Spring Conf. on Information Processing*, Korea Information Processing Society, 2003.

Seung-Jin Sul and Kyung-Hyun Roh, "A Study on Automated Fingerprint Identification System for Large Fingerprint Database," *Proc. of 2003 Spring Conf. on Information Processing*, Korea Information Processing Society, 2003.

Seung-Jin Sul, Tae-Sung Kim and Keum-Suk Lee, "Performance Evaluation of the Agent-On-Demand for Distributed Systems Management," *Proc. of 2000 Spring Conf. on Information Processing*, Korea Information Processing Society, 2000.

Seung-Jin Sul and Keum-Suk Lee, "Distributed Systems Management using Agent-On-Demand," *Journal of Korea Information Science Society (A)*, pp. 81-88, Vol. 27, No. 1, Korea Information Science Society, 2000.

Seung-Jin Sul, Yong-Kyu Lee, Keum-Suk Lee, Young-Sik Hong and Tae-Sik Han, "Construction of the Hankuk Bulgyo Chonso Database using Unicode and SGML," *Electronic Buddhist Text : Digitalization of Buddhist Text for 21st Century*, Vol. 1, pp. 167-177, Dongguk University Press, Dec. 1999.

Seung-Jin Sul and Keum-Suk Lee, "An Agent Request Mechanism of the Agent-On-Demand for Distributed System Management," Proc. of '99 Spring Conf. on Information Science, pp. 137-139, Vol. 26, No. 1, Korea Information Science Society, 1999.

Seung-Jin Sul and Keum-Suk Lee, "Agent-On-Demand for Distributed System Management," Proc. of '98 Autumn Conf. on Information Science, pp. 148-150, Vol. 25, No. 2, Korea Information Science Society, 1998.

Seung-Jin Sul, Eung-Gu You and Keum-Suk Lee, "A Framework of Distributed System Management Policy using SGML and RDBMS," Proc. of '98 Spring Conf. on Information Science, pp. 158-160, Vol. 25, No. 1, Korea Information Science Society, 1998.

Seung-Jin Sul, In Han, Jung-Suk Kim, Young-Sik Hong, Keum-Suk Lee and Yong-Kyu Lee, "Development of a Searching Technology for Korean Ancient Text on the Web," Journal of Industry Technology Research Center, Dongguk University Press, 1998.

Seung-Jin Sul, Yong-Kyu Lee, Keum-Suk Lee, Young-Sik Hong, Jung-Suk Kim, In Han and Hoon-Chul Shin, "Construction of a Korean Ancient Text Database," Journal of Dongguk, Vol.37, pp.211-236, Dongguk University Press, Dec. 1998.

Seung-Jin Sul, Shin-Tak Ju, Young-Sik Hong, Keum-Suk Lee and Yong-Kyu Lee, "Construction of a Korean Ancient Text Database using Unicode and SGML," Proc. of '98 Spring Conf. on Information Science, pp. 9-11, Vol. 25, No. 1, Korea Information Science Society, 1998.

Seung-Jin Sul, Jun-Tae Kim, et al., "Improving the Performance of Genetic Algorithm by using Probability Distribution of Random Chromosome," Proc. of '97 Spring Conf. on Information Science, pp. 315-318, Vol. 25, No. 1, Korea Information Science Society, 1997.

Seung-Jin Sul, Kyung-Hyun Roh and Keum-Suk Lee, "Performance Comparisons of Solaris, POSIX, and JAVA Multithread Model," Proc of '97 Spring Conf. on Information Processing, pp. 177-182, Vol. 4, No. 1, Korea Information Processing Society, 1997.

Seung-Jin Sul and Keum-Suk Lee, "Extended RPCGEN(ERPCGEN) : Automatic Conversion of Monolithic Programs for Client-server Model using Program Slicing," Proc. of '95 Autumn Conf. on Information Science, pp. 953-956, Vol. 22, No. 2, Korea Information Science Society, 1995.

Technical Reports

Seung-Jin Sul and Tiffani L. Williams. "Fast Hashing Algorithms to Summarize Large Collections of Evolutionary Trees", Technical Report TR-CS-2008-6-1, Department of Computer Science, Texas A&M University, 2008.

Seung-Jin Sul and Tiffani L. Williams, "A Randomized Algorithm for Comparing Sets of Phylogenetic Trees," Technical Report TR-2006-9-3, Department of Computer Science, Texas A&M University, 2006.

Books

Dong-Rin Seo, Sang-Yub Na, Seung-Jin Sul and In Han, "Internet Information Searcher," YoungJin Press, Korea, 1997.

Seung-Jin Sul, Jin-Eung Kim and In Han, "Internet Guide for Hitel Users," Information Publishing Group (IPG) Press, Korea, 1996.

Seung-Jin Sul, Jin-Eung Kim and In Han, "Internet Guide for Chollian Users," Information Publishing Group (IPG) Press, Korea, 1996.

Seung-Jin Sul, Jin-Eung Kim and In Han, "Internet Guide for Nownuri Users," Information Publishing Group (IPG) Press, Korea, 1996.

Patents

Seung-Jin Sul, Hoon-Chul Shin, Shin-Tak Ju, Keum-Suk Lee, Young-Sik Hong and Yong-Kyu Lee, "Retrieval System for Korean Ancient Text Database," Society of Korean Computer Program Protection (98-01-25-2771), May 1998.

HONORS AND AWARDS

"Gold Prize" in the 2nd National Internet Searching Contest on Educational Information, Yonsei University, Seoul, Korea, Sep 1997

FELLOWSHIP

Overseas Research Fellowship

For research at Georgia Institute of Technology from Korean government agency, KOSEF (Korea Science and Engineering Foundation, www.kosef.re.kr).

PRESENTATION

Poster Presentations

"A Randomized Algorithm for Comparing Sets of Phylogenetic Trees" **September 2007**

- IAP (Industrial Affiliates Program) Poster Presentation, Texas A&M University.

"A Randomized Algorithm for Comparing Sets of Phylogenetic Trees" **July 20, 2007**

- The 15th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB), Vienna, Austria.

"A Randomized Algorithm for Comparing Sets of Phylogenetic Trees" **Mar 1 2007**

- IAP (Industrial Affiliates Program) Poster Presentation, Texas A&M University.

INVITED TALK

South Korea

"Biometric Technology" **Dec 2 2003**

- 2003 Fall Information Technology Conference, Seoul, Korea.
- Invited by Information and Communication Research Center, Dongguk University.

International

"Randomized Algorithms for Analyzing Large Collections of Evolutionary Trees" **Oct 2008**

- Parasol Seminar, Department of Computer Science, Texas A&M University, USA.

"Technology of Standalone Optical Fingerprint Recognition Module" **Dec 2002**

- IT Technology Transfer Conference, Madrid, Spain.
- Sponsored by Ministry of Information and Communication, Korea.
- Invited by CDTI (Centre for the Development of Industrial Technology) of Spain.

"Technology of Standalone Optical Fingerprint Recognition Module" **Nov 2002**

- IT Technology Transfer Conference, Hanoi, Vietnam
- Sponsored by Ministry of Information and Communication, Korea
- Invited by Vietnam government

TECHNICAL SKILLS

- Programming: C, C++, Perl, UNIX shell scripting, SQL, and others
- Matlab experience: statistics, clustering, machine learning, and visualization

- Applications: TEX, LATEX, BibTEX, Microsoft Office, SQL server, Sybase, and other common productivity packages for Windows, OS X, and Linux platforms
- Operating Systems: Microsoft Windows Vista/XP/2000, Apple OS X, Linux, Solaris, and other UNIX variants