

Shu Du

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Interests

Looking for a full-time position in **Networking, Operating System or Distributed Systems**

Education

Sep 2001 - **PhD Candidate**
Present Dept. of Computer Science, Rice University
Sep 2001 - **Master of Science**
May 2004 Dept. of Computer Science, Rice University
GPA: overall 4.03/4.0, 33 credits
Sep 1999 - **Master of Engineering**
Jun 2001 Dept. of Computer Science and Technology, Tsinghua University, China
GPA: overall 89.3/100, 19 credits
Sep 1994 - **Bachelor of Engineering**
Jun 2001 Dept. of Computer Science and Technology, Tsinghua University, China
GPA: overall 87.1/100, 254 credits

Experiences

Summer Internship in IPsec Dev group, Windows Networking Dept., Microsoft Inc., Redmond, WA

Jun 2006- Working on windows filtering platform (WFP) for windows Vista. Developed a tool to
Aug 2006 monitor the ongoing TCP/UDP connections and their associated IPsec secure
association information. Wrote a WFP driver in the kernel to monitor the on-going
UDP end-to-end connections.

Summer Internship in DSPS R&D Department, Texas Instruments Inc., Dallas, TX

Jun 2005- Working on 802.11s mesh networking MAC/PHY algorithms and simulations. Developed
Sep 2005 an adaptive hybrid routing protocol for wireless mesh networks. Implemented a mesh
network simulation framework in the OPNET simulator.
Jun 2004- Working on 802.11n wireless LAN MAC/PHY algorithms and simulations. Developed an
Sep 2004 OPNET simulation model for the high throughput wireless MAC layer with different
QoS supportive mechanisms.

Research Assistant in the System Group, Department of Computer Science, Rice University

Sep 2001- Research on wireless networking technologies in wireless ad-hoc networks and sensor
Present networks. Developed protocols, such as MAC, routing, address assignment, QoS and
topology management, for common communication architecture in multi-hop wireless
networks. Designed a multi-hop MAC protocol for sensor networks and mesh
networks. Designed a self-organizing hierarchical address assignment protocol in the
distributed systems. Implemented a framework to port the wireless networking
simulation code into the physical implementation without modification.

Teaching Assistant in Department of Computer Science, Rice University

Sep 2001- I have been a TA of the following 4 courses: Computer Organization, Intermediate
Present Programming, Computer System Architecture, Mobile and Wireless Networking.

Research Assistant in the Institute of High-Performance Computing, Dept. of CS, Tsinghua U. China

Sep 1997- Research on the scalable parallel workstation cluster system and its relevant applications.
Jun 2001 Designed the facilities of fault tolerance, process migration, and intelligent resource
management for parallel tasks on cluster platforms. Implemented a source-level
debugger for the parallel programs.

Selected Publications

- ♦ **Shu Du**, Ahamed Khan, Santashil PalChaudhuri, etc. “Safari: A Self-Organizing, Hierarchical Architecture for Scalable Ad Hoc Networking”, accepted by Ad Hoc Networks Journal, Apr. 2007
- ♦ **Shu Du**, Amit Kumar Saha, David B. Johnson. “RMAC: A Routing-Enhanced Duty-Cycle MAC Protocol for Wireless Sensor Networks”, will appear in 26th Annual IEEE Conference on Computer Communications (INFOCOM’07), Anchorage, Alaska, May. 2007
- ♦ Amit Kumar Saha, Khoa Anh To, Santashil PalChaudhuri, **Shu Du**, and David B. Johnson. “Design and Performance of PRAN: A System for Physical Implementation of Ad Hoc Network Routing Protocols”, will appear in IEEE Transactions on Mobile Computing, pages 463--479, Vol. 6, No. 4, April 2007
- ♦ Raymond S. Wagner, Richard G. Baraniuk, **Shu Du**, etc. “An Architecture for Distributed Wavelet Analysis and Processing in Sensor Networks”, 5th International Conference on Information Processing In Sensor Networks (IPSN), Nashville, Tennessee, March. 2006
- ♦ Amit Kumar Saha, Khoa To, Santashil PalChaudhuri, **Shu Du**, David B. Johnson, “Physical Implementation and Evaluation of Ad Hoc Network Routing Protocols with Unmodified Simulation Models”, SIGCOMM Asia Workshop, Beijing, China, Apr. 2005
- ♦ Santashil PalChaudhuri, **Shu Du**, Amit Kumar Saha, David B. Johnson, “TreeCast - A Stateless Addressing and Routing Architecture for Sensor Networks”, the 4th International Workshop on Algorithms for Wireless, Mobile, Ad Hoc and Sensor Networks (WMAN’04), Santa Fe, New Mexico, Apr 2004

Honors

2001	<i>Rice University Graduate Fellowship</i>
1999	<i>Outstanding Diploma Thesis</i> of Tsinghua University, China
1998, 96, 95	<i>Excellent Student Scholarship</i> of Tsinghua University, China
1997	<i>Lenova Scholarship</i> , Beijing, China
1994	<i>Excellent Freshman Scholarship</i> of Tsinghua University, China

Professional Skills

Programming Languages: C/C++/VC++, Java, UNIX shell, Perl, PVM/MPI, Pascal, Delphi, HTML, SQL, Assembly Languages.

Operating Systems: UNIX, Linux, FreeBSD, Windows NT/2000/XP/Vista

Engineering Software: NS2, OPNET, MATLAB, Excel, Word

Relevant Courses

Mobile and Wireless Networking, Distributed Systems, Parallel Algorithms, Operating Systems, Computer Networks, Computer Architectures, Computer Organizations, Database Principles, Computer Graphics, Artificial Intelligence, Compiler Design, Design & Analysis of Algorithms, Computing Theories, Image Processing, etc.

References

- David B Johnson, Associate Professor, Department of Computer Science, Rice University
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- Peter Druschel, Professor, Department of Computer Science, Rice University
Email: druschel@cs.rice.edu Phone: 713-348-4664 Fax : 713-348-5930
- Rudolf H Riedi, Associate Professor, Department of Statistics, Rice University
Email: riedi@rice.edu Phone: 713-348-3020 Fax : 713-348-5476