

JIANPING SONG

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Objective	Seeking a challenging full-time development position in the fields of operating systems, embedded systems, and networking	
Summary of Qualifications	<ul style="list-style-type: none">• Substantial industrial software development experience• Extensive knowledge of operating system internals and networking protocols• 10+ years programming experience: C/C++, Java, Perl, Unix Shell, and HTML	
Education	<p>The University of Texas at Austin Austin, TX Ph.D. in Computer Science, May, 2009; GPA: 4.0/4.0 Thesis: Constraint-based Real-time Scheduling for Process Control</p> <p>Tsinghua University Beijing, China M.E. in Computer Science, July, 2001; GPA 91/100</p> <p>Tsinghua University Beijing, China B.E. in Computer Science, July, 1998; GPA 91/100</p>	
Research & Work Experience	<p>UT Austin, Austin, TX <i>01/2006 - present</i> Real-time Scheduling in Wireless Industrial Process Control Systems</p> <ul style="list-style-type: none">• Enhanced the multi-processor real-time scheduling tool <i>MSP.RTL</i> and lowered the memory usage by a factor of 2• Developed an algorithm for <i>MSP.RTL</i> to allow the addition/removal of constraints dynamically• Designed a scheduling tool to regulate traffic in Wireless Industrial Control Systems <p>Emerson Process Management, Austin, TX <i>05/2008 - 08/2008</i> Software Engineer Intern, Mentor: Mark Nixon</p> <ul style="list-style-type: none">• Implemented the WirelessHART MAC layer on the Freescale DEMOJM board (48MHz ColdFire V1 core, 128KB Flash, 16K RAM)• Evaluated the interoperation of the DEMOJM board with WirelessHART-compliant devices from Dust Networks <p>VMware Inc., Palo Alto, CA <i>05/2004 -08/2004</i> Software Engineer Intern, Mentor: Bich Le</p> <ul style="list-style-type: none">• Designed and implemented a library to parse Windows Logical Disk Manager (LDM) database• Enhanced VMware products with dynamic disk support <p>VMware Inc., Palo Alto, CA <i>05/2003 - 08/2003</i> Software Engineer Intern, Mentor: Bich Le</p> <ul style="list-style-type: none">• Designed and implemented a tool to enable customization of Windows XP/2003 images on Windows 2000 hosts• Developed an online technique to clone a Windows system	

Dynamic File System Reorganization (Course Project): 02/2002 - 07/2002

- Designed an algorithm to trace file usages in EXT2 file systems and dynamically reorganize those files to speed up read operations
- Implemented the algorithm on Linux
- Improved the read performance of EXT2 file systems by as much as 18%

Teaching Experience

Teaching Assistant, UT.Austin, *Introduction to Operating Systems*, 09/2001 – 05/2003
 Teaching Assistant, UT.Austin, *Computer Architecture*, 08/2003 – 05/2004

Selected Publications

- S. Han, J. Song, X. Zhu, A. Mok, D. Chen, M. Nixon, W. Pratt, and V. Gondhalekar. Wi-HTest: Compliance Test Suite for Diagnosing Devices in Real-Time WirelessHART Networks. *The 15th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2009)(to appear)*, April 2009.
- J. Song, S. Han, A. Mok, D. Chen, M. Nixon, M. Lucas, and W. Pratt. WirelessHART: Applying Wireless Technology in Real-Time Industrial Process Control. *The 14th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2008)*, Apr 2008.
- J. Song, A. Mok, D. Chen, and M. Nixon. Optimizing Distributed Foundation Fieldbus Process Control with MSP.RTL Tool. *The 5th IEEE International Conference on Industrial Informatics (INDIN 2007)*, Jul 2007.
- J. Song, A. Mok, D. Chen, M. Nixon, T. Blevins, and W. Wojsznis. Improving PID Control with Unreliable Communications. *ISA EXPO Technical Conference*, Oct 2006.
- J. Song, A. Mok, D. Chen, and M. Nixon. Using Real-Time Logic Synthesis Tool to Achieve Process Control over Wireless Sensor Networks. *The 12th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA 2006)*, Aug 2006.
- S. Yang, J. Song, H. Rajamani, T. Cho, Y. Zhang, and R. Mooney. Fast and Effective Worm Fingerprinting via Machine Learning. *The 3rd IEEE International Conference on Autonomic Computing (ICAC 2006)* (poster), Jun 2006.

Professional Activities

Student Member of IEEE
 Referee for RTCSA'05, RTAS'06, RTSS'07, and CASE'08

Honors & Awards

Graduate Student Professional Development Award, UT.Austin, 2008
 ISA Excellence in Documentation Award, 2007
 Graduate Student Professional Development Award, UT.Austin, 2006
 Graduate Guanghua Scholarship, Tsinghua University, 2000
 12.9 Scholarship, Tsinghua University, 1997