

Chen Qian

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Education

B.S. Computer Science, Nanjing University, *Summa Cum Laude*  
09/2002-06/2006  
*Advisor:* Prof. Jiafu Xu & Prof. Fangmin Song GPA: 3.8/4.0

### Honors and Awards

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| 2006-2008 | HKUST Postgraduate Studentship,   |
| 2006      | Excellent Graduate Award, Nanjing University,   |
| 2003-2006 | Renmin Scholarship of Nanjing University,   |
| 2005      | Scholarship for Outstanding Students in Nanjing University,   |
| 2004      | Runner-up in the 1st Programming Competition of Nanjing University,   |
| 2002      | The Third Place in the 9th Eloquence Competition of Nanjing University,   |
| 2001      | Third Prize in 2001 National Olympiad in Mathematics (NOM),<br>Second Prize in 18th National Olympiad in Physics (NOP),<br>Second Prize in 10th National Olympiad in Biology (NOB). |

### Research Experience

Visiting Researcher 05/2008 - 07/2008  
Wireless Sensor Systems and Networks Joint Lab Shanghai  
*Supervisor:* Prof. Lionel Ni  
I worked in selective data transmission and load-balancing in sensor network; RFID systems.

Research Assistant 2006–2008  
Department of Computer Science and Engineering HKUST  
*Supervisor:* Prof. Lionel M. Ni

I have been working in wireless sensor networks, pervasive computing, and other self-organized networks. Research projects include: efficient RFID system processing; cardinality estimation for RFID systems; opportunistic topology control in wireless sensor networks; opportunistic transmission based QoS topology control; network coding in mobile peer-to-peer networks; anonymously querying the structured P2P networks.

Student Researcher 05/2007 - 08/2007  
Wireless Sensor Systems and Networks Joint Lab Shanghai  
*Supervisor:* Prof. Yunhao Liu  
Funded by National Basic Research Program of China (973 Program), this research lab includes 30 selected faculties and graduate students from the most top research universities over China.  
Joined the research project "the Fundamental Theory and Critical Technologies for Wireless Sensor Networks". I worked in data aggregation in sensor network; RFID systems; opportunistic routing and network coding.

Research Assistant State Key Lab for Novel Software Technology Worked in Quantum Computing and Programming research group. Designed a new quantum programming language NDQJava based on Java, which is a hybrid language which introduces quantum components according to the basic principles of quantum mechanics. Also the quantum transmission components were introduced in order to improve quantum programming. Our group also designed its processing system, which consists of lexical analyzer, syntax analyzer, code generation, quantum assembler and quantum interpreter. I mainly contributed in syntax analyzer.	2005–2006 Nanjing University
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### Teaching Experience

- Teaching Assistant, COMP211&211H Introduction to Software Engineering (Honor's Track), HKUST, Spring 2008, *Instructor:* Prof. Frederick H. Lochovsky & Prof. Zonghua Gu
- Teaching Assistant, COMP362 Advanced Computer Networks, HKUST, Fall 2007, *Instructor:* Prof. Yunhao Liu
- Teaching Assistant, COMP211&211H Introduction to Software Engineering (Honor's Track), HKUST, Spring 2007, *Instructor:* Prof. Frederick H. Lochovsky & Prof. Zonghua Gu
- Teaching Assistant, COMP104 Programming Fundamentals and Methodology, HKUST, Fall 2006, *Instructor:* Prof. Brian Mak & Prof. Wenwu Lou
- Teaching Assistant, Technical English, Nanjing University, Fall 2005, *Instructor:* Prof. Cunzhu Li

### Research Papers

- [1] Chen Qian, Hoi-Lun Ngan, Yunhao Liu and Lionel M. Ni "Real-time RFID Tag Cardinality Estimation", submitted to *IEEE Transactions on Parallel and Distributed Systems (IEEE TPDS)*.
- [2] Chen Qian, Yunhuai Liu, Hoi-Lun Ngan and Lionel M. Ni, "Some paper", Submitted to *the sixteenth IEEE International Conference on Network Protocols (IEEE ICNP 2008)*.
- [3] Jian Ma, Chen Qian, Qian Zhang and Lionel M. Ni, "Opportunistic Transmission Based QoS Topology Control in Wireless Sensor Networks", accepted to appear in *Fifth IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS 2008)*. Acceptance Ratio: 60 out of 250+.
- [4] Chen Qian, Hoi-Lun Ngan, Yunhao Liu, "Cardinality Estimation for Large-scale RFID Systems", in Proceedings of *the Sixth Annual IEEE International Conference on Pervasive Computing and Communication (IEEE PerCom 2008)*. Acceptance Ratio: 19 out of 160.
- [5] Jian Ma, Qian Zhang, Chen Qian and Lionel M. Ni, "Energy-efficient Opportunistic Topology Control in Wireless Sensor Networks", in Proceedings of *the First International Workshop on Mobile Opportunistic Networking (ACM/SIGMOBILE MobiOpp 2007)* in conjunction with *MobiSys2007*, pp. 33-38, Puerto Rico, June 11, 2007. Acceptance Ratio: 10 out of 35.
- [6] Chen Qian, "Quantum Entanglement in Quantum Computing", in *Quantum Computing* (Jiafu Xu and Fangmin Song, eds.) Chapter 3, Nanjing University, 2007. (in Chinese)
- [7] Chen Qian, "Quantum Entanglement and Quantum Computing", *Journal of Computer Science*, Vol. 11, Nov. 2006. (in Chinese)

### Talks & Presentations

- "Real-time RFID Cardinality Estimation", 973 WSN Joint Lab, Shanghai, Jun. 2008,
- "Programming for Multi-core Computers", Department of CSE, HKUST, Apr. 2008,
- "Cardinality Estimation for Large-scale RFID Systems", PerCom conference, HK, Mar. 2008
- "Opportunistic Routing", 973 WSN Joint Lab, Shanghai, Jul. 2007
- "Wireless Network Coding", Department of CSE, HKUST, Oct. 2006,

“Quantum entanglement and quantum computing”, State Key Laboratory for Novel Software Technology, Nanjing Univ. Nov. 2005,

**Technical Reviewer**

*IEEE IWQoS 2007, ACM/SIGMOBILE MobiOpp 2007, IEEE Globecom 2007, IEEE RTSS 2007, IEEE Infocom 2008, ICDCN 2008, IEEE PerCom 2008, IEEE ICC 2008, ACM MobiHoc 2008, IEEE MASS 2008, IEEE ICPADS 2008*

Reviewer of National Science Foundation of China (NSFC), 2008.

**Membership**

IEEE student member.

**Extracurricular Activities**

Head of Academic Section of the Student Union of Computer Science Department, Nanjing Univ., 2002-2005

Organizer and Coach of the Debate team of Department of Computer Science and Technology, Nanjing Univ., 2003

Member of the Debate team of Department of Computer Science and Technology, Nanjing Univ., 2002-2005

Active member of Nanjing Red Cross and Nanjing University Red Cross.

**Reference**

Available upon request