

Xia Zhou

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Education	University of California, Santa Barbara Ph.D. in Computer Science (Expected)	California, U.S.A. 2007 - Present
	Peking University M.S. in Computer Science	Beijing, China 2004 - 2007
	Wuhan University B.E. in Computer Science & Technology GPA (Major): 91.6/100; RANK: 1st/726	Wuhan, China 2000 - 2004
Research Experience	<i>Research Assistant</i> Intelligent Networking Lab	10/2007 – Present, UCSB, U.S.A
Projects	Dynamic Spectrum Auctions: Systems and Algorithms	
Description	We are working on applying short-term dynamic spectrum auctions to distribute spectrum based on dynamic user demand and willingness-to-pay. The challenge is how to derive auction results in real-time while addressing interference constraints.	
	<i>Research Intern</i> Microsoft Research Asia	03/2006 – 10/2006, Beijing, China
Projects	Rate Adaptation in 802.11 Wireless Networks	
Description	Our project addresses the rate adaptation problem in the context of nascent 802.11n standard. We propose to adapt data rate from the correlation perspective, and have developed Correlation based Rate Adaptation (CORA). CORA splits rate into more atomic components and adjusts them according to the correlation between rate adaptation actions and transmission results. Since CORA is designed in the context of IEEE 802.11n, we have developed a physical layer simulator and a NS2 simulator in the 802.11n context to evaluate CORA's performance.	
	<i>Research Assistant</i> Network and Information Security Lab	03/2005 – 07/2007, Peking University, China
Projects	(1) Feedback based Secure Routing (FBSR) (2) Reputation based Client Puzzle Scheme for WSN (3) Blacklist aided False Data Filtering Scheme for WSN (BSEF)	
Description	We are working on routing protocol design and routing security in WSN. In the first project, we have developed FBSR which improves opportunistic routing by utilizing feedbacks from both neighbor nodes and base station. Feedback from neighbors is used	

for incorporating energy into routing metric due to the resource-constraint of sensor networks, while feedback from base station is exploited for guaranteeing routing security. In the second project, we have designed a reputation based client puzzle scheme and a security framework to enhance the security of base station. The puzzle's difficulty is adapted according to sensor node's reputation. In this way, malicious nodes are punished without introducing too much burden on normal nodes. In the third project, we proposed a Blacklist aided Statistical Enroute Filtering (BSEF) scheme of false data filtering in WSN. Therefore, false data are filtered at node level instead of checking data content of each packet leading to more efficient filtering of false data.

Research Assistant

State Key Lab of Software Engineering

04/2003 – 12/2003,

Wuhan University, China

Projects Personalized Virtual System on Library Management

Description Designed a system to simulate scenarios in a library and learn the personalities of users. The system can facilitate users using the library resources, enrich user's experience, and intelligently infer user's interests and preferences from historical records.

Publications

Xia Zhou, Sorabh Gandhi, Subhash Suri and Haitao Zheng. "eBay in the Sky: Strategy-Proof Wireless Spectrum Auctions". *In ACM MobiCom 2008*, San Francisco, CA, September, 2008. **(Nominated for best paper award)**

Xia Zhou, Shravan Mettu, Heather Zheng, and Elizabeth M. Belding. "Traffic-Driven Dynamic Spectrum Auctions". *In the Proceedings of IEEE Workshop on Networking Technologies for Software Defined Radio (SDR) Networks (WSDR 2008)*, San Francisco, CA, June, 2008.

Xia Zhou, Jun Zhao, and Guanghua Yang. "Correlation based Rate Adaptation via Insights from Incomplete Observations in 802.11 Networks". *In The IEEE International Conference on Communications (ICC)*, June, 2007.

Zhen Cao, **Xia Zhou**, Maoxing Xu, Zhong Chen, Jianbin Hu and Liyong Tang. "Enhancing Base Station Security against DoS Attacks in Wireless Sensor Networks". *In The IEEE International Conference on Wireless Communications, Networking and Mobile Computing (WiCOM)*, September, 2006.

Zhen Cao, Jianbin Hu, Zhong Chen, Maoxing Xu, and **Xia Zhou**. "Feedback: Towards Dynamic Behavior and Secure Routing for Wireless Sensor Networks". *In Proc. of International Conference on Advanced Information Networking and Application (AINA)*, vol. 2, pp. 160-164, April, 2006.

Working Experience

Teaching Assistant

(Spring 2005, Fall 2006)

Peking University, China

Courses

(1) Data Structure and Algorithms

- *For students from Medical School and City Environment School*

