

# Si Chen

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## Education

- \* **University at Buffalo - SUNY** Buffalo, NY  
*Ph.D., Computer Science (GPA 3.8)* Sep. 2012 - Present
  - Research Assistance in Ubiquitous Security and Privacy Research Laboratory (UbiSeC Lab),  
Advisor: Dr. Kui Ren
  - Relevant courses: Applied Cryptography and Computer Security, Wireless Network Security, Theory of Computation, Modern Network Concept, Wireless Networking and Mobile Computing
- \* **University at Buffalo - SUNY** Buffalo, NY  
*M.S., Electrical Engineering (GPA 3.8)* Sep. 2010 - May. 2012
  - Research Assistance in Wireless Networks and Embedded Systems Lab (WINES Lab),  
Advisor: Dr. Tommaso Melodia
  - Relevant courses: Multimedia Wireless Sensor Network, Principle of Information Theory and Coding, Optimization of Wireless Network
- \* **China Agricultural University** Beijing, China  
*B.S., Measuring & Control Technology and Instrumentations* 2006-2010
  - Graduated with Honors, Top 100 Excellent Graduate Theses award winner

## Publications

- \* Si Chen, Muyuan Li, Kui Ren, Xinwen Fu, Chunming Qiao, “Rise of the Indoor Crowd: Reconstruction of Building Interior View via Mobile Crowdsourcing,” in **Proceedings of the 13th ACM Conference on Embedded Networked Sensor Systems (SenSys 2015)**, 2015.
- \* Si Chen, Muyuan Li, Kui Ren, Chunming Qiao, “CrowdMap: Accurate Reconstruction of Indoor Floor Plan from Crowdsourced Sensor-Rich Videos,” in **Proceedings of the 35th IEEE International Conference on Distributed Computing Systems (ICDCS’15)**, 2015.
- \* Si Chen, Muyuan Li, Zhan Qin, Kui Ren, “IndoorCrowd2D: Building Interior View Reconstruction via Mobile Crowdsourcing,” in **Proceedings of the IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS)**, 2015.
- \* Muyuan Li, Haojin Zhu, Zhaoyu Gao, Si Chen, Le Yu, Shangqian Hu, Kui Ren, “All your location are belong to us: Breaking mobile social networks for automated user location tracking,” in **Proceedings of the 15th ACM international symposium on Mobile ad hoc networking and computing (Mobihoc’14)**, 2014.
- \* Bingsheng Zhang, Qin Zhan, Si Chen, Muyuan Li, Kui Ren, Cong Wang, Di Ma, “PriWhisper: Enabling Keyless Secure Acoustic Communication for Smartphones,” in **IEEE Internet of Things Journal**, 2014.
- \* Si Chen, Muyuan Li, Kui Ren, “The power of indoor crowd: Indoor 3D maps from the crowd,” in **Proceedings of the IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS)**, 2014.
- \* Si Chen, Muyuan Li, Zhan Qin, Bingsheng Zhang, Kui Ren, “AcousAuth: An acoustic-based mobile Application for user authentication,” in **Proceedings of the IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS)**, 2014.
- \* Muyuan Li, Si Chen, Kui Ren, “Enabling private and non-intrusive smartphone calls with LipTalk,” in **Proceedings of the IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS)**, 2014.

- \* Eric Koski, Si Chen, Scott Pudlewski, Tommaso Melodia, "Network simulation for advanced HF communications engineering," in *Proceedings of the 12th International Conference on Ionospheric Radio Systems and Techniques (IRST2012)*, 2012.
- \* Si Chen, Lina Ling, Yuan Rongchang, Longqing Sun, "Classification Model of Seed Cotton Grade Based on Least Square Support Vector Machine Regression Method," in *Proceedings of the IEEE International the 6th International Conference on Information and Automation for Sustainability (ICIAfS'12)*, 2012.
- \* Rongchang Yuan, Zhengjiang Li, Si Chen, "Movement and deformation of virtual object based on argument passing method," in *Proceedings of the IEEE International Conference on Virtual Environments, Human-Computer Interfaces and Measurement Systems (VECIMS'12)*, 2012.
- \* Rongchang Yuan, Si Chen, Zhengjiang Li, Shengrong Lu, Li Wang, Haigan Yuan, "Simulation and Models on Control of Pests with Ozone in Greenhouses Plant," in *Proceedings of the IASTED International Conference on Modelling, Simulation, and Identification (MSI'2011)*, 2011.
- \* Rongchang Yuan, HaiganYuan, Si Chen, Longqing Sun, Feng Qin, Han Zhang, Yukun Zhu, Daokun Ma, "Research on the k-coverage local wireless network and its communication coordination mechanism design," in *Proceedings of the 5th International Conference on Computer and Computing Technologies in Agriculture (CCTA 2011)*, 2011

## Selected Research Projects

- \* **IndoorCrowd** Buffalo, NY  
*Project Leader, Ubiquitous Security and Privacy Research Laboratory (UbiSeC Lab)* Jun. 2013 - Present
  - Designed and Implemented a smartphone empowered cloud-based crowdsourcing system for large-scale indoor scene reconstruction.
- \* **AcousAuth** Buffalo, NY  
*Project Leader, Ubiquitous Security and Privacy Research Laboratory (UbiSeC Lab)* Jun. 2013 - Oct. 2013
  - Designed and Implemented a smartphone empowered personal authentication system exploiting keyless acoustic communication.
  - Winner of the 19th Annual International Conference on Mobile Computing and Networking (MobiCom'13) App Competition Finalists (top 10).
- \* **Ground Wave Simulator** Buffalo, NY  
*Project Leader, Wireless Networks and Embedded Systems Laboratory (WINES Lab)* 2011 - May. 2012
  - Implemented an online ground wave simulation system based on NS-2 open source network simulator, GRWAVE and VOACAP Software to simulate advanced high frequency (HF) network.
- \* **Cognitive Radio Framework** Buffalo, NY  
*Wireless Networks and Embedded Systems Laboratory (WINES Lab)* 2011 - Jan. 2012
  - Implemented TCP/IP protocol into GNU Radio testbed USRP2
  - GNU Radio co-operative setup
- \* **Intellectualized Greenhouse Measuring & Control System** Beijing, China  
*Project Leader, National University Student Innovation Program* 2009 - May. 2010
  - Used CC2430 wireless node and Zigbee stack (Z-stack) to measure and control a greenhouse model's humidity and temperature.
  - Used Python, PHP, Javascript (jQuery), MySQL and C to create a realtime B/S System.
  - Designed a PCB with controllers that can use CC2430 with computer to remote control the greenhouse model.
  - Designed and built a greenhouse model.
  - Implemented PHP reflection mechanism to create a plugin system for further system enhancement.

## Previous Work Experience and Internships

- \* **University at Buffalo - SUNY** Buffalo, US  
*Research Assistant* Aug. 2013 - Aug. 2015
- \* **Sina Weibo (China)** Beijing, China  
*Application Dev Engineer (Internship)* Apr. 2010 - July. 2010
  - Used Python (Matplotlib), Javascript (jQuery) and PHP with MySQL to build an UNIX cluster administration system
  - Created an usage frequency indicator to show Weibo's current usage frequency in different areas using Python, C, PHP with MySQL, Javascript
- \* **ASSE/WH China** Beijing, China  
*Website Developer and Website Administrator (Part-time job)* Oct. 2007- Feb. 2008
  - Re-constructed company's website using Mambo CMS System
  - Built an online registration system using PHP and MySQL

### Extracurriculum Works

- \* Used SigOps uBoot System (UIUC), C, Assembly to create my own operating system 'Quake'
- \* Used Python, MySQL to create a program which helps me to increase Weibo followers automatically
- \* Used Python, jQuery, PHP, MySQL to build an on-line GPA Calculate System
- \* Used Python, C++, Sed, PHP, MySQL and Javascript to design an Automatic Tests Score SMS Notifier
- \* Used CC2430 wireless single chip microcomputer and TinyOS embedded system, PHP, MySQL, C, Shell Script to create an Amphibian & Reptiles Aquarium Monitoring System
- \* Used Google Map API, Javascript, HTML to design an on-line alumni catalog
- \* Co-founder and technique advisor of the Future Engineers Association (FEA)

### Honors and Awards

Top 100 Excellent Graduate Theses in China Agricultural University	2010
Excellent Graduate Award in China Agricultural University	2010
National University Student Innovation Program Award (\$3200)	2009-2010
Undergraduate Research Program Award (\$500)	2007-2008
Third Prize of International Interdisciplinary Contest in Modeling (ICM)	2009
Third Prize of Scholarship for Excellent Academic Performance (\$100)	2007,2008,2009
Awarded twice "The best debater" title in debate competitions	2006,2007

### Skills

**Programming Languages:** Python, C,  $\text{\LaTeX}$ , Javascript, Shell, SQL, PHP, HTML, Perl, Java, Haskell, Assembly

**Operating Systems:** Linux (Gentoo Linux), OS X, Windows, FreeBSD

**Applications:** MATLAB, Vim, Cadence Virtuoso,  $\text{\LaTeX}$ , Photoshop, MS Office

**Framework:** Android Development Framework (JAVA), GNU Radio (Python), Django (Python), Web.py (Python), jQuery(Javascript)

**Miscellaneous:** Rapid Prototyping Ability, Excellent Troubleshooting and Debugging Skills, Good Problem Solving Skills.