SHAN-HSIANG SHEN

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PRESENT ADDRESS
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EDUCATION

Ph.D. Degree in Computer Science
University of Wisconsin-Madison   2008 Fall ∼ 2014 Winter
Ph.D. Student in Electrical and Computer Engineering
University of Wisconsin-Madison   2007 Spring ∼ 2008 Fall
Master Degree in Computer Science
University of Wisconsin-Madison   2008 Fall ∼ 2010 Spring
Master Degree in Computer Science and Information Engineering
(Miner Degree: Management Science)
National Chiao Tung University   2002 Fall ∼ 2004 Spring
Bachelor Degree in Computer Science and Information Engineering
National Chiao Tung University   1998 Fall ∼ 2002 Spring

RESEARCH INTERESTS

Mobile and wireless network, content-aware communication, cloud computing, multimedia services, and software-defined networking.

PUBLICATIONS

2016   **OpenSC: Enabling High-Performance Service Chains for Cloud SDN Networks**
Shan-Hsiang Shen, Jian-Jhih Kuo, Ming-Hong Yang, De-Nian Yang, and Wen-Tsuen Chen
Submitted to ACM Sigcomm 2016, Salvador, Bazil.

2016   **Reliable Multicast System and Implementation for Software-Defined Networks**
Shan-Hsiang Shen, Liang-Hao Huang, De-Nian Yang and Wen-Tsuen Chen
Will be submitted to IEEE/ACM Transactions on Networking.

2016   **Inter-domain Signaling-Assisted Video Streaming in Software Defined Networks**
Yi-Jie Lee, Shan-Hsiang Shen, and Wen-Tsuen Chen
Will be submitted to IEEE/ACM Transactions on Networking.

2016   **Multicast Traffic Engineering for Software-Defined Networks**
Liang-Hao Huang, Hsiang-Chun Hsu, Shan-Hsiang Shen, De-Nian Yang, and W. T. Chen
IEEE INFOCOM 2016, San Francisco, USA. (Accept Rate = 18%).

2016   **Privacy-Preserving Deep Packet Filtering over Encrypted Traffic in Software-Defined N**
Yi-Hui Lin, Shan-Hsiang Shen, Ming-Hong Yang, De-Nian Yang, and W. T. Chen
IEEE ICC 2016, Kuala Lumpur, Malaysia.

2015   **Reliable Multicast Routing for Software-Defined Networks**
Shan-Hsiang Shen, Liang-Hao Huang, De-Nian Yang, and W. T. Chen
IEEE INFOCOM 2015, Hong Kong, China. (Accept Rate = 19%)

2014   **2L-MAC: A MAC Protocol with Two-Layer Interference Mitigation in Wireless Body Area Networks for Medical Applications**
Guan-Tsang Chen, W. T. Chen, and Shan-Hsiang Shen
IEEE ICC 2014, Sydney, Australia.

2013	**An Information-Aware QoE-Centric Mobile Video Cache**
	Shan-Hsiang Shen and Aditya Akella
	ACM MobiCom 2013, Miami, FL. (Accept Rate = 13.5%)

2012	**DECOR: a Distributed Coordinated Resource Monitoring System**
	Shan-Hsiang Shen and Aditya Akella
	IEEE/ACM IWQOS 2012, Coimbra, Portugal (Accept Rate = 22%)

2011	**Refactoring Content Overhearing to Improve Wireless Performance**
	Shan-Hsiang Shen,Aaron Gember, Ashok Anand and Aditya Akella
	ACM MobiCom 2011, Las Vegas, NV. (Accept Rate = 13.6%)

2005	**Speedy Handover: Improving Handover Performance Based on 802.11 Mechanism**
	Shan-Hsiang Shen and Yaw-Chung Chen
	ITA 05, Wrexham, North Wales, UK, September 2005

OTHER RESEARCH PROJECTS

2012 Event Detection in Customer Care Calls

It is expensive to handle customer care call by human agents for cellular providers such as AT&T. The goal of this project is to reduce the calls that need human agents by classifying calls precisely and detecting special events. We try to apply data analysis and machine learning to achieve this goal.

2009 Wiscape: A Case for a Client-assisted Approach to Monitoring Wide-area Wireless Networks

We measure the 3G Network performances of AT&T, Verizon, and Sprint in different time and location in Madison, WI. We develop a tool, which can automatically measure throughput, jitter, and round-trip time by giving a script file.

2009 Vision Localization: Using a Camera to Localize a Mobile Device

We develop a system running on a mobile device such as a laptop or a smartphone, which can localize itself by talking a picture. This system can work in both indoor and outdoor environment. It solves the problem of invalid GPS signal indoor.

2007 Localization Using WIFI Signals

We develop a system to scan WIFI signals around a mobile device to calculate its location, which use less power compared to GPS.

WORK EXPERIENCE

2016/2∼Present Engineer
(Industrial Technology Research Institute, Taiwan)
working on OpenFlow, Cloud Computing, and NFV related projects

2015/1∼2016/2 Postdoctoral Fellow Working with Prof. Wen-Tsuen Chen
(Academia Sinica, Taiwan)
desgin and implement a platform for SDN+NFV

2013/8∼2014/12 Research Assistant Working with Prof. Wen-Tsuen Chen
(Academia Sinica, Taiwan)
Working on some projects about software-defined networking, QoS for video service, and reliable multicast. Build up a private software-defined network.

2012/6∼2012/8 Intern in AT&T Lab, Florham Park, NJ
Working on the project "Event Detection in Customer Care Calls."

2010/1~2013/8	**Research Assistant Working with Prof. Aditya Akella** Working on some projects about wireless networks, redundancy elimination, and information-bound references.
2010/6~2010/9	**Intern in Ericsson Lab, San Jose, CA** Implement Openflow 1.1 in the kernel space of Open vSwitch.
2006/7~2006/12	**Research Assistant Working with Prof. Yaw-Chung Chen** Working on the topic "Investigation and Design of High Performance P2P Security Gateway."
2004/10~2006/1	**Platoon Commander in training center** Training and taking care of new soldiers.
2002/7~2003/1	**Intern in CISCO Lab of National Chiao Tung University** Building and testing a VOIP emulator.

TEACHING EXPERIENCE

2009 Spring	**Teaching Assistant on CS368 Learning New Programming Language** Helping students to solve problems about the lessons and grading student projects.
2008 Spring	**Teaching Assistant on CS412 Introduction to Numerical Methods** Grading student assignments and exams.
2003 Fall	**Teaching Assistant on Programming Language** Helping students to solve problems about the lessons and grading student projects.

INVITED TALKS

2015/10	**A Next Generation Network with SDN and NFV** National Central University, Taiwan.
2014/9	**Redundancy Elimination Schemes in Computer Communication** Academia Sinica, Taiwan.
2013/11	**Content-aware Traffic Optimization over Mobile and Wireless Networks** National Taiwan University of Science and Technology, Taiwan.

EXTRACURRICULAR

2009/6~2010/5	**Vice President of Student Association of Taiwanese** Helping new Taiwanese students and holding events.