

Weina Wang

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RESEARCH INTERESTS Cloud computing, Datacenters, Data privacy,
Stochastic networks, Applied probability

CURRENT APPOINTMENTS **University of Illinois at Urbana-Champaign**, Urbana, Illinois
Postdoctoral Research Associate, Aug. 2016 – Present
Coordinated Science Laboratory
Advisor: Prof. R. Srikant

Arizona State University, Tempe, Arizona
Postdoctoral Research Associate, Aug. 2016 – Present
School of Electrical, Computer, and Energy Engineering
Advisor: Prof. Lei Ying

EDUCATION **Arizona State University**, Tempe, Arizona
Ph.D., Electrical Engineering, 2016
Advisors: Prof. Lei Ying, Prof. Junshan Zhang

Iowa State University, Ames, Iowa
Ph.D. Student, Jul. 2011 – Jul. 2012
Department of Electrical and Computer Engineering
Advisor: Prof. Lei Ying

Tsinghua University, Beijing, China
Graduate Student, Sep. 2009 – Jun. 2011
Department of Electrical Engineering

Tsinghua University, Beijing, China
B.E., Electrical Engineering, 2009
Academic Talent Program in School of Sciences

HONERS AND AWARDS **Kenneth C. Sevcik Outstanding Student Paper Award, ACM Sigmetrics**, 2016
Coauthors: Lei Ying and Junshan Zhang

Dean's Dissertation Award, Arizona State University, 2016
Awarded to one recipient for each school

Invited participant, Rising Stars in ECEE Workshop
Carnegie Mellon University, 2016

Invited participant, NSF NeTS Early Career Workshop, 2015

Joseph A. Barkson Fellowship, Arizona State University, 2015

Samsung Scholarship for Academic Excellence, Tsinghua University, 2010

Excellent Bachelor Thesis in Electrical Engineering, Tsinghua University, 2009

Friend of Tsinghua Scholarship for Academic Excellence

Tsinghua University, 2007, 2008

Freshman Scholarship, Tsinghua University, 2005

JOURNAL

PUBLICATIONS

J1. Weina Wang, Lei Ying and Junshan Zhang, "The Value of Privacy: Strategic Data Subjects, Incentive Mechanisms and Fundamental Limits," under submission to *ACM Transactions on Economics and Computation*.

J2. Weina Wang, Lei Ying, and Junshan Zhang, "On the Relation Between Identifiability, Differential Privacy, and Mutual-Information Privacy," *IEEE Trans. Inf. Theory*, vol. 62, pp. 5018–5029, Sep. 2016.

J3. Weina Wang, Kai Zhu, Lei Ying, Jian Tan, and Li Zhang, "MapTask Scheduling in MapReduce with Data Locality: Throughput and Heavy-Traffic Optimality," *IEEE/ACM Trans. Netw.*, vol. 24, pp. 190–203, Feb. 2016.

J4. Weina Wang and Lei Ying, "Data Locality in MapReduce: A Network Perspective," *Perform. Eval.*, vol. 96, pp. 1–11, Feb. 2016.

J5. Xiaohan Kang, Weina Wang, Juan José Jaramillo, and Lei Ying, "On the Performance of Largest-Deficit-First for Scheduling Real-time Traffic in Wireless Networks," *IEEE/ACM Trans. Netw.*, vol. 24, pp. 72–84, Feb. 2016.

J6. Weina Wang, Kai Zhu, Lei Ying, Jian Tan, and Li Zhang, "A Throughput Optimal Algorithm for Map Task Scheduling in MapReduce with Data Locality," *ACM SIGMETRICS Perform. Eval. Rev.*, vol. 40, no. 4, pp. 33–42, Mar. 2013.

CONFERENCE

PUBLICATIONS

C1. Weina Wang, Lei Ying and Junshan Zhang, "Buying Data from Privacy-Aware Individuals: The Effect of Negative Payments," in *Proc. Conference on Web and Internet Economics (WINE)*, Montreal, Canada, Dec. 2016.

C2. Weina Wang and Lei Ying, "Resource Allocation for Data-Parallel Computing in Networks with Data Locality," in *Proc. Ann. Allerton Conf. Communication, Control and Computing*, Monticello, IL, Oct. 2016.

C3. Weina Wang, Lei Ying and Junshan Zhang, "The Value of Privacy: Strategic Data Subjects, Incentive Mechanisms and Fundamental Limits," in *Proc. ACM SIGMETRICS*, pp. 249–260, Antibes Juan-les-Pins, France, Jun. 2016.

Kenneth C. Sevcik Outstanding Student Paper Award

C4. Weina Wang, Lei Ying, and Junshan Zhang, "A Minimax Distortion View of Differentially Private Query Release," in *Proc. Asilomar Conf. Signals, Systems, and Computers*, pp. 1046–1050, Pacific Grove, CA, Nov. 2015.

C5. Weina Wang, Lei Ying, and Junshan Zhang, "A Game-Theoretic Approach to Quality Control for Collecting Privacy-Preserving Data," in *Proc. Ann. Allerton Conf. Communication, Control and Computing*, pp. 474–479, Monticello, IL, Sep. 2015.

C6. Weina Wang, Matthew Barnard and Lei Ying, "Decentralized Scheduling with Data Locality for Data-Parallel Computation on Peer-to-Peer Networks," in *Proc. Ann. Allerton Conf. Communication, Control and Computing*, pp. 337–344, Monticello, IL, Sep. 2015.

C7. Weina Wang, Lei Ying, and Junshan Zhang, "On the Relation Between Identifiability, Differential Privacy, and Mutual-Information Privacy," in *Proc. Ann. Allerton Conf. Communication, Control and Computing*, pp. 1086–1092, Monticello, IL, Sep. 2014.

C8. Weina Wang and Lei Ying, "Data Locality in MapReduce: A Network Perspective," in *Proc. Ann. Allerton Conf. Communication, Control and Computing*, pp. 1110–1117, Monticello, IL, Sep. 2014.

C9. Xiaohan Kang, Weina Wang, Juan José Jaramillo, and Lei Ying, "On the Performance of Largest-Deficit-First for Scheduling Real-Time Traffic in Wireless Networks," in *ACM Int. Symp. Mobile Ad Hoc Networking and Computing (MobiHoc)*, pp. 99–108, Bangalore, India, Jul. 2013.

C10. Weina Wang, Kai Zhu, Lei Ying, Jian Tan, and Li Zhang, "Map Task Scheduling in MapReduce with Data Locality: Throughput and Heavy-Traffic Optimality," in *Proc. IEEE Int. Conf. Computer Communications (INFOCOM)*, pp. 1609–1617, Turin, Italy, Apr. 2013.

PROPOSAL WRITING EXPERIENCE	- Helped draft National Science Foundation proposal "TWC SBE: Small: Towards an Economic Foundation of Privacy-Preserving Data Analytics: Incentive Mechanisms and Fundamental Limits" - Funded \$499,999.00 in 2016.
PATENT	Submitted US patent application "Peer-to-Peer Architecture for Processing Big Data," 2015. Inventors: Lei Ying, Weina Wang, and Matthew Barnard.
INVITED PRESENTATIONS	"The Value of Privacy: Strategic Data Subjects, Incentive Mechanisms and Fundamental Limits," invited poster presentation, Rising Stars in ECEE Workshop, Nov. 2016. "Learning from Privacy-Preserving Data: Fundamental Limits and Mechanism design," invited Graduation Day poster presentation, Information Theory and Applications Workshop (ITA), Feb. 2016. "The Value of Privacy: Incentive Mechanisms and Fundamental Limits," invited poster presentation, NSF NeTS Early Career Workshop, Jul. 2015. "Map Task Scheduling in MapReduce with Data Locality: Throughput and Heavy-Traffic Optimality," invited talk, IBM Student Workshop on Frontiers of Cloud Computing (F2C2), Jul. 2013.
TEACHING EXPERIENCE	Teaching Assistant , Signals and Systems II, Iowa State University, Spring 2012 Teaching Assistant , Signals and Systems I, Iowa State University, Fall 2011 Teaching Assistant , Advanced Signal Processing, Tsinghua University, Fall 2010
PROFESSIONAL SERVICE	Reviewer for IEEE/ACM Transactions on Networking, IEEE Transactions on Information Theory, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Information Forensics and Security, IEEE Transactions on Computers, MobiHoc, INFOCOM, ICC.