Taeho Jung

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PROFESSIONAL EXPERIENCE

University of Notre Dame, Department of Computer Science and Engineering, Notre Dame, IN

Assistant Professor   **Aug. 2017 - Present**

Illinois Institute of Technology, Department of Computer Science, Chicago, IL

Teaching Assistant   **Aug. 2011 - May. 2017**
- CS330 — Discrete Structures: Spring'15, Spring'14, Fall'13, Spring'13, Fall'12
- CS430 — Introduction to Algorithms: Spring'17, Fall'16, Spring'16, Fall'15, Fall'14
- CS331, CS485, CS561, CS595: Spring'12, Fall'11

Research Assistant   **Aug. 2011 - May. 2017**
- Studied information security and user privacy implications in big data life cycle.

Adjunct Instructor   **May. 2016 - July 2016**
- CS330 — Discrete Structures
  Instructor Evaluation 5.0/5.0, Course Evaluation 4.75/5.0

EDUCATION

Illinois Institute of Technology, Chicago, IL USA

Ph.D., Computer Science. 2017
- Dissertation: "Ensuring Security and Privacy in Big Data Sharing, Trading, and Computing"
- Adviser: Dr. Xiang-Yang Li and Dr. Peng-Jun Wan

Tsinghua University, Beijing, China

B.E., Computer Software, 2011
- Thesis: "Design and Implementation of Anonymous Access Control Protocol for Cloud Environment — AnonyABE"
- Thesis score tied at 2nd place out of 26 students.
- Adviser: Dr. Zhiguo Wan

HONORS AND AWARDS

Runner up for Best Paper Award, BigCom	**2015**
Teaching Assistant of the Year, Department of C.S., Illinois Tech.	**2015**

- Nominated by Prof. Edward M. Reingold and Prof. Gruia Calinescu

Best Paper Award, IEEE IPCCC	**2014**
Best Paper Candidate, ACM MobiHoc	**2014**
Best Student Paper Award, Department of C.S., Illinois Tech.	**2013**

INTERNSHIP EXPERIENCE

Microsoft Research Asia, Beijing, China

Research Intern   **May. 2014 - August. 2014**
Research on "safe driving with smart glasses". Details are confidential due to the company policy.

Sprint Advanced Analytics Labs, Burlingame, CA USA

X3 Research Intern   **May. 2012 - August. 2012**
Big data mining on call details records (CDR) of Sprint. Studied how to infer influential subscribers whose churn may lead to more churners to reduce marketing costs.

Tsinghua University, Research Center of Software Theory, Beijing, China

Research Intern   **July. 2010 - July. 2011**

Research on security implications in cloud computing environment. Studied how to advance the access control schemes in cloud computing environment.

PH.D. ADVISEES	Ryan Karl (rkarl@nd.edu)	Ph.D. expected 2022

JOURNAL
PUBLICATION

1. Ting Li, Taeho Jung, Zhijin Qiu, Hanshang Li, Lijuan Cao, Yu Wang
   "Scalable Privacy-Preserving Participant Selection for Mobile Crowdsensing Systems: Participant Grouping and Secure Group Bidding"
   IEEE Transactions on Network Science and Engineering (TNSE), to appear in 2018

2. Jiahui Hou, Xiang-Yang Li, Taeho Jung, Yu Wang, Daren Zheng
   "CASTLE: Enhancing the Utility of Inequality Query Auditing without Denial Threats"
   IEEE Transactions on Information Forensics and Security (TIFS), to appear in 2018

3. Hongli Xu, Zhuolong Yu, Xiang-Yang Li, Liusheng Huang, Chen Qian, Taeho Jung
   "Joint Route Selection and Update Scheduling for Low-Latency Update in SDNs" *IEEE/ACM Transactions on Networking (ToN)*, 25.5 (2017): 3073-3087.

4. Lan Zhang, Taeho Jung, Kebin Liu, Xiang-Yang Li, Xuan Ding, Jiaxi Gu, Yunhao Liu
   "PIC: Enable Large-scale Privacy Preserving Content-based Image Search on Cloud"
   IEEE Transactions on Dependable and Secure Computing (TPDS), 28.11 (2017): 3258-3271.

5. Jianwei Qian, Xiang-Yang Li, Chunhong Zhang, Linlin Chen, Taeho Jung, Junze Han
   "Social Network De-Anonymization and Privacy Inference with Knowledge Graph Model"
   IEEE Transactions on Dependable and Secure Computing (TDSC), to appear in 2017-2018

6. Haohua Du, Junze Han, Xuesi Jian, Taeho Jung, Cheng Bo, Yu Wang, Xiang-Yang Li
   "Martian: Message Broadcast via LED Lights to Heterogeneous Smartphones"
   IEEE Journal on Selected Areas in Communications (JSAC), 35.5 (2017): 1154-1162.

7. Taeho Jung, Junze Han, Xiang-Yang Li
   "PDA: Semantically Secure Time-Series Data Analytics with Dynamic Subgroups"
   IEEE Transactions on Dependable and Secure Computing (TDSC), to appear in 2017

8. Cheng Bo, Xuesi Jian, Taeho Jung, Junze Han, Xiang-Yang Li, Xufei Mao, Yu Wang
   "Detecting Drivers Smartphone Usage via Non-intrusively Sensing Driving Dynamics"
   IEEE Internet of Things Journal, 4.2 (2017): 340-350.

9. Cheng Bo, Taeho Jung, Xu-Fei Mao, Xiang-Yang Li, Yu Wang
   "SmartLoc: sensing landmarks silently for smartphone-based metropolitan localization"
   EURASIP Journal on Wireless Communications and Networking, 2016.1 (2016): 1-17.

10. Zhiyong Tian, Taeho Jung, Yi Wang, Fan Zhang, Lai Tu, Chengzhong Xu, Chen Tian, Xiang-Yang Li
    "Real-Time Charging Station Recommendation System for Electric-Vehicle Taxis"
    IEEE Transactions on Intelligent Transportation Systems (T-ITS), 17.11 (2016): 3098-3109.

11. Taeho Jung, Xiang-Yang Li, Zhiguo Wan, Meng Wan
    "Control cloud data access privilege and anonymity with fully anonymous attribute-based encryption"
    IEEE Transactions on Information Forensics and Security (TIFS), 10.1 (2015): 190-199.

12. Lan Zhang, Xiang-Yang Li, Kebin Liu, Taeho Jung, Yunhao Liu
    "Message in a Sealed Bottle: Privacy Preserving Friending in Mobile Social Networks"
    IEEE Transactions on Mobile Computing (TMC), 14.9 (2015): 1888-1902.

13. Taeho Jung, Xiang-Yang Li, Meng Wan
"Collusion-Tolerable Privacy-Preserving Sum and Product Calculation without Secure Channel"
IEEE Transactions on Dependable and Secure Computing (TDSC), 12.1 (2015): 45-57

CONFERENCE PUBLICATION

1. Linlin Chen, Taeho Jung, Haohua Du, Jianwei Qian, Jiahui Hou, Xiang-Yang Li
"Crowdlearning: Crowded Deep Learning with Data Privacy"
IEEE International Conference on Sensing, Communication, and Networking (IEEE SECON), 2018

2. Ting Li, Taeho Jung, Hanshang Li, Lijuan Cao, Weichao Wang, Xiang-Yang Li, Yu Wang
"Scalable Privacy-Preserving Participant Selection in Mobile Crowd Sensing"
IEEE International Conference on Pervasive Computing and Communications (IEEE Per-Com), 2017

3. Taeho Jung, Xiang-Yang Li, Wenchao Huang, Jianwei Qian, Linlin Chen, Junze Han, Jiahui Hou, Cheng Su
"AccountTrade: Accountable Protocols for Big Data Trading Against Dishonest Consumers"
36th Annual IEEE International Conference on Computer Communications (IEEE INFO-COM), 2017

4. Zhenhua Li, Weiwei Wang, Christo Wilson, Jian Chen, Chen Qian, Taeho Jung, Lan Zhang, Kebin Liu, Xiang-Yang Li, Yunhao Liu
"FBS-Radar: Uncovering Fake Base Stations at Scale in the Wild"
The Network and Distributed System Security Symposium (NDSS), 2017

5. Haohua Du, Taeho Jung, Xuesi Jian, Yiqing Hu, Jiahui Hou, Xiang-Yang Li
"User-Demand-Oriented Privacy-Preservation in Video Delivering"
12th IEEE International Conference on Mobile Ad-Hoc and Sensor Networks (IEEE MSN), 2016

6. Junze Han, Xiang-Yang Li, Taeho Jung, Lili Du
"Ensuring Semantic Validity in Privacy-Preserving Aggregate Statistics"
12th IEEE International Conference on Mobile Ad-Hoc and Sensor Networks (IEEE MSN), 2016

7. Jianwei Qian, Shaojie Tang, Huiqi Liu, Taeho Jung, Xiang-Yang Li
"Privacy Inference on Knowledge Graphs: Hardness and Approximation"
12th IEEE International Conference on Mobile Ad-Hoc and Sensor Networks (IEEE MSN), 2016

8. Hongli Xu, Zhuolong Yu, Xiang-Yang Li, Chen Qian, Liusheng Huang, Taeho Jung
"Real-time Update with Joint Optimization of Route Selection and Update Scheduling for SDNs"
24th IEEE International Conference on Network Protocols (IEEE ICNP), 2016

9. Xiang-Yang Li, Chunhong Zhang, Taeho Jung, Jianwei Qian, Linlin Chen
"Graph-Based Privacy-Preserving Data Publication"
35th Annual IEEE International Conference on Computer Communications (IEEE INFO-COM), 2016

10. Taeho Jung, Xiang-Yang Li, Junze Han "A Framework for Optimization in Big Data: Privacy-preserving Multi-agent Greedy Algorithm"
1st International Conference on Big Data Computing and Communications (BigCom), 2015

11. Lan Zhang, Taeho Jung, Puchun Feng, Kebin Liu, Xiang-Yang Li
"PIC: Enable Large-scale Privacy Preserving Content-based Image Search on Cloud"
44th International Conference on Parallel Processing (ICPP) 2015

12. Lan Zhang, Taeho Jung, Cihang Liu, Xuan Ding, Xiang-Yang Li, Yunhao Liu
    "POP: Privacy-preserving Outsourced Photo Sharing and Searching for Mobile Devices"
    35th IEEE International Conference on Distributed Computing Systems (IEEE ICDCS), 2015

13. Junze Han, Xiang-Yang Li, Taeho Jung, Jumin Zhao, Zenghua Zhao
    "Network Agile Preference-Based Prefetching for Mobile Devices"
    33rd IEEE International Performance, Computing, and Communication Conference (IEEE IPCCC), 2014

14. Cheng Bo, Lan Zhang, Taeho Jung, Junze Han, Xiang-Yang Li, Yu Wang
    "Continuous User Identification via Touch and Movement Behavioral Biometrics"
    33rd IEEE International Performance, Computing, and Communication Conference (IEEE IPCCC), 2014

15. Lan Zhang, Xiang-Yang Li, Wenchao Huang, Kebin Liu, Shuwei Zong, Xuesi Jian, Puchun Feng, Taeho Jung, Yunhao Liu
    "It starts with iGaze: visual attention driven networking with smart glasses"
    20th Annual International Conference on Mobile Computing and Networking (ACM Mobi-Com), 2014

16. Xuangou Wu, Panlong Yang, Taeho Jung, Yan Xiong, Xiao Zheng
    "Compressive sensing meets unreliable link: sparsest random scheduling for compressive data gathering in lossy WSNs"
    15th ACM International Symposium on Mobile Ad Hoc Networking and Computing (ACM MobiHoc), 2014

17. Jing Zhao, Taeho Jung, Yu Wang, Xiang-Yang Li
    "Achieving Differential Privacy of Data Disclosure in the Smart Grid"
    33th Annual IEEE International Conference on Computer Communications (IEEE INFO-COM), 2014

18. Sara Motahari, Taeho Jung, Hui Zang, Krishna Janakiraman, Xiang-Yang Li, Kevin Soo Hoo
    "Predicting the Influencers on Wireless Subscriber Churn"
    IEEE Wireless Communications and Networking Conference (IEEE WCNC), 2014

19. Taeho Jung, Xiang-Yang Li, Zhiguo Wan, Meng Wan
    "Privacy Preserving Cloud Data Access with Multi-Authorities"
    32th Annual IEEE International Conference on Computer Communications (IEEE INFO-COM), 2013

20. Taeho Jung, XuFei Mao, Xiang-Yang Li, Shaojie Tang, Wei Gong, Lan Zhang
    "Privacy-Preserving Data Aggregation without Secure Channel: Multivariate Polynomial Evaluation"
    32th Annual IEEE International Conference on Computer Communications (IEEE INFO-COM), 2013

21. Xiang-Yang Li, Taeho Jung
    "Search Me If You Can: Privacy-Preserving Location Query Service"
    32th Annual IEEE International Conference on Computer Communications (IEEE INFO-COM), 2013

22. Lan Zhang, Xiang-Yang Li, Yunhao Liu, Taeho Jung
    "Verifiable Private Multi-party Computation: Ranging and Ranking"
    32th Annual IEEE International Conference on Computer Communications (IEEE INFO-COM), 2013

23. Shaojie Tang, Xufei Mao, Taeho Jung, Junze Han, Xiang-Yang Li, Boliu Xu, Chao Ma
    "Closing the Gap in the Multicast Capacity of Hybrid Wireless Networks"
    13th ACM International Symposium on Mobile Ad Hoc Networking and Computing (ACM MobiHoc), 2012

PEER-REVIEWED WORKSHOP PUBLICATION	Taeho Jung, Xiang-Yang Li "Enabling Privacy-preserving Auctions in Big Data" *IEEE Conference on Computer Communications Workshops (IEEE INFOCOM WKSHPS)*, 2015	
PEER-REVIEWED POSTER PUBLICATION	Cheng Bo, Xiang-Yang Li, Taeho Jung, XuFei Mao, Yue Tao, Yao Lan "SmartLoc: push the limit of the inertial sensor based metropolitan localization using smartphone" *19th Annual International Conference on Mobile Computing and Networking (ACM MobiCom)*, 2013	

PROFESSIONAL SERVICE	**PC member** of the *BigCom*	**2018**
	PC member of the *SPEBD at ARES*	**2018**
	PC member of the *ICCCN*	**2018**
	Organizer of the *MIS2*	**2018**
	PC member of the *BigCom*	**2017**
	PC member of the *IEEE IPCCC*	**2016**
	PC member of the *IEEE MSN*	**2016**
	PC member of the *BigCom*	**2016**
	PC member of the *IEEE DCOSS*	**2016**
	Publicity Co-chair of the *BigCom*	**2015**
	Student Volunteer of the *ACM MobiCom*	**2013**

Journal Reviewer of

• *Transactions on Networking (ToN)*	**2016, 2018**
• *Transactions on Knowledge and Data Engineering (TKDE)*	**2016 - 2018**
• *Transactions on Parallel and Distributed System (TPDS)*	**2013 - 2014, 2017**
• *IEEE Access*	**2017**
• *Transactions on Smart Grid (TSG)*	**2016-2017**
• *Transactions on Networking (ToN)*	**2016**
• *Transactions on Information Forensics and Security (TIFS)*	**2015 - 2016**
• *Transactions on Dependable and Secure Computing (TDSC)*	**2015 - 2016**
• *Transactions on Computers (TC)*	**2015 - 2016**
• *Transactions on Magazine Intelligent Transportation Systems*	**2015**
• *International Journal of Ad Hoc and Ubiquitous Computing*	**2015**
• *International Journal of Distributed Sensor Networks*	**2015**
• *Transactions on Mobile Computing (TMC)*	**2013 - 2014**

Conference Reviewer of

• *IEEE INFOCOM*	**2012 - 2017**
• *NIPS*	**2016**
• *IEEE GLOBECOM*	**2015**
• *ACM MobiHoc*	**2014**
• *IEEE SECON*	**2014**
• *IEEE MASS*	**2012**

DEPARTMENT SERVICE	**University of Notre Dame** Computer Science and Engineering Graduate Admission Committee	2017
INVITED TALKS	**University of Notre Dame** Department Seminars. "Secure Computation for Multi-Party Deep Learning"	September. 2017
	Illinois Institute of Technology Featured speech at Hackathon hosted by ACM-W at Illinois Tech. "The Fourth Industrial Revolution: Possible Impacts on Security and Privacy"	April. 2017
	Illinois Institute of Technology Seminar at Society for Industrial and Applied Mathematics (SIAM) Student Chapter "Introductory-level Discussion of Cryptography in C.S. and Cyber-security"	March. 2016
	Korea University Seminar at Department of Computer Science and Engineering, Network Research Lab "Beyond the Anonymization and Encryption: Privacy Risks and Countermeasures in Big Data"	May. 2015