

# Yuzhe (Richard) Tang

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## Academic Position

2014 - Assistant Professor, Department of EECS, Syracuse University

## Education

Ph.D. Georgia Institute of Technology (Atlanta, GA USA), 2009-2014  
M.Sc. Fudan University (Shanghai, China), 2006-2009  
B.Sc. Fudan University (Shanghai, China), 2002-2006

## Research Interests

Applied Cryptography, Database Systems, Distributed Computing

## Publication

In submission *Log-structured Authenticated Data Storage with Minimal Trust*  
**Yuzhe Tang**, Ju Chen

In submission *Oblivious Multi-Party Databases*  
**Yuzhe Tang**, Ju Chen, Amin Fallahi

In submission *Privacy-Preserving Locator Services by Multi-Party Deterministic Noise Generation*  
**Yuzhe Tang**, Katchaguy Areekijseree, Amin Fallahi, Shuang Wang

SecDev'16 *Towards Building Practical And Secure Multi-Party Databases*  
**Yuzhe Tang**, Wenqing Zhuang  
IEEE Cybersecurity Development Conference 2016 (Abstract)

Bioinformatics'16 *HEALER: Homomorphic computation of ExAct Logistic rEGRes-sion for secure rare disease variants analysis in GWAS*  
Shuang Wang, Y. Zhang, W. Dai, K. Lauter, M. Kim, **Yuzhe Tang**, X. Jiang  
Oxford Journals Bioinformatics, doi: 10.1093/bioinformatics/btv563

BMC'15 *Privacy-preserving GWAS analysis on federated genomic datasets*  
Scott D Constable, **Yuzhe Tang**, Shuang Wang, Xiaoqian Jiang, Steve Chapin  
BMC Medical Informatics and Decision Making 2015, [Open access](#)

TKDE'15 *Privacy-Preserving Multi-Keyword Search in Information Networks*  
**Yuzhe Tang**, Ling Liu  
IEEE Trans. Knowl. Data Eng. 27(9): 2424-2437 (2015)

CCGrid'15 (Best) *Deferred Lightweight Indexing for Log-Structured Key-Value Stores*  
**Yuzhe Tang**, Arun Iyengar, Wei Tan, Liana Fong, Ling Liu, Balaji Palanisamy  
IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing 2015: 11-20  
**Best Paper Award**

HPBDC'15 *KTV Tree: Interactive Top-K Aggregation on Large Dataset in Cloud*  
**Yuzhe Tang**, Ling Liu, Junichi Tatemura, Hakan Hacigumus  
IEEE International Conference of Distributed Computing Systems Workshops 2015: 136-141

HotCloud'15 *Privacy-Preserving Offloading of Mobile App to the Public Cloud*  
Yue Duan, Mu Zhang, Heng Yin, **Yuzhe Tang**  
USENIX Workshop on Hot Topics in Cloud Computing 2015

TBC'15 *Secure Multi-party Computation on Grid Logistic Regression*  
Haoyi Shi, Shuang Wang, Wenrui Dai, **Yuzhe Tang**, Xiaoqian Jiang, Lucila Ohno-Machado  
Annual Translational Bioinformatics Conference 2015

ACSAC'14 *Lightweight Authentication of Freshness in Outsourced Key-Value Stores*

ICDCS'14	<b>Yuzhe Tang</b> , Ling Liu, Xin Hu, Jiyong Jang USENIX/ACM Annual Computer Security Applications Conference 2014: 176-185 <i>e-PPI: Locator Service in Information Networks with Personalized Privacy Preservation</i>
EDBT'14	<b>Yuzhe Tang</b> , Ling Liu, Arun Iyengar IEEE International Conference of Distributed Computing Systems 2014: 186-197 <i>Diff-Index: Differentiated Index in Distributed Log-Structured Data Stores</i>
JDPD'14	Wei Tan, Sandeep Tata, <b>Yuzhe Tang</b> , Liana Fong International Conference on Extending Database Technology 2014: 700-711 <i>Anonymizing Continuous Queries with Delay-tolerant Mix-zones on Road Networks</i>
ICDE'14	Balaji Palanisamy, Ling Liu, Kisung Lee, Shicong Meng, <b>Yuzhe Tang</b> International Journal of Distributed and Parallel Databases 32(1): 91-118 (2014) <i>Outsourcing multi-version key-value stores with verifiable data freshness</i>
TPDS'13	<b>Yuzhe Tang</b> , Ling Liu, Ting Wang, Xin Hu, Reiner Sailer, Peter Pietzuch IEEE International Conference on Data Engineering 2014: 1214-1217 <i>Auto-pipelining for Data Stream Processing</i>
Cloud'13	<b>Yuzhe Tang</b> , Bugra Gedik IEEE Trans. Parallel Distrib. Syst. 24(12): 2344-2354 (2013) <i>Residency Aware Inter-VM Communication in Virtualized Cloud: Performance Measurement and Analysis</i>
Cloud'13	Qi Zhang, Ling Liu, Yi Ren, Kisung Lee, <b>Yuzhe Tang</b> , Xu Zhao, Yang Zhou IEEE International Conference on Cloud Computing 2013: 204-211 <i>Efficient and Customizable Data Partitioning Framework for Distributed Big RDF Data Processing in the Cloud</i>
MSN'12	Kisung Lee, Ling Liu, <b>Yuzhe Tang</b> , Qi Zhang, Yang Zhou IEEE International Conference on Cloud Computing 2013: 327-334 <i>Location Privacy with Road Network Mix-Zones</i>
Cloud'12 (Best)	Balaji Palanisamy, Ling Liu, Kisung Lee, Shicong Meng, <b>Yuzhe Tang</b> IEEE International Conference on Mobile Ad-hoc and Sensor Networks 2012: 124-131 <i>Reliable State Monitoring in Cloud Data Centers</i>
	Shicong Meng, Arun Iyengar, I. Rouvellou, L. Liu, K. Lee, B. Palanisamy, <b>Yuzhe Tang</b> IEEE International Conference on Cloud Computing 2012: 951-958 <b>Best Paper Award</b>
CIKM'11	<i>Privacy Preserving Indexing for eHealth Information Networks</i> <b>Yuzhe Tang</b> , Ting Wang, Ling Liu, Shicong Meng, Balaji Palanisamy Conference on Information and Knowledge Management 2011: 905-914
TPDS'11	<i>A Lightweight Multi-dimensional Index for Complex Queries over DHTs</i> <b>Yuzhe Tang</b> , Jianliang Xu, Shuigeng Zhou, Wang-Chien Lee, Dingxiong Deng, Yue Wang IEEE Trans. Parallel Distrib. Syst. 22(12): 2046-2054 (2011)
TKDE'10	<i>LIGHT: A Query-Efficient yet Low-Maintenance Indexing Scheme over DHTs</i> <b>Yuzhe Tang</b> , Shuigeng Zhou, Jianliang Xu IEEE Trans. Knowl. Data Eng. 22(1): 59-75 (2010)
ICDCS'09	<i>m-LIGHT: Indexing Multi-Dimensional Data over DHTs</i> <b>Yuzhe Tang</b> , Jianliang Xu, Shuigeng Zhou, Wang-Chien Lee IEEE International Conference of Distributed Computing Systems 2009: 191-198
ICDCS'08	<i>LHT: A Low-Maintenance Indexing Scheme over DHTs</i> <b>Yuzhe Tang</b> , Shuigeng Zhou IEEE International Conference of Distributed Computing Systems 2008: 141-151

## Patents

2014	Adaptive Auto-pipelining in Stream Processing Applications: US20140101668 Bugra Gedik, Scott A. Schneider, <b>Yuzhe Tang</b> , Kun-lung Wu
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## Teaching

Spring 2017	CIS/CSE600, <i>Applied Cryptography</i> CIS655/CSE661, <i>Advanced Computer Architecture</i> CIS423, <i>System Programming</i>
Spring 2016	CIS700/CSE791, <i>Big-Data and Cloud Security</i> , website: <a href="#">[link]</a>
Fall 2015	CIS655/CSE661, <i>Advanced Computer Architecture</i> (180 students), website: <a href="#">[link]</a>
Spring 2015	CIS700/CSE791, <i>Distributed Systems in Cloud</i> , website: <a href="#">[link]</a>

Fall 2014 CIS655/CSE661, *Advanced Computer Architecture* (180 students)

## Research Funding

2015-2016 Optimizing Privacy-Preserving Analytics in Information Networks  
Yuzhe Tang (PI), \$69,861

## Student Supervision

Ph.D. Ju Chen, Wenqing Zhuang, Amin Fallahi  
Master Achal Prakashbhai Velani, Haoyi Shi, Katchaguy Areekijseree  
Alumni Hari Krishna Gajarla (M.S.), Bloomberg, L.P.

## Professional Services

P.C. TOCS 2017  
ICDCS 2017, 2015  
IEEE Cloud 2015  
PAIS 2016, 2015  
TKDE 2017,2016, 2015  
TSC 2017,2016, 2015  
TWeb 2015, TCSVT 2014, Middleware 2012

## Internship Experience

05/2013-08/2013 IBM Research (T.J. Watson Lab) at Yorktown Heights, NY USA  
05/2012-08/2012 IBM Research (T.J. Watson Lab) at Yorktown Heights, NY USA  
05/2011-08/2011 IBM Research (T.J. Watson Lab) at Hawthorn, NY USA  
05/2010-08/2010 NEC Labs America at Cupertino, CA USA  
01/2009-06/2009 Microsoft Research Asia at Beijing, China  
01/2006-04/2006 IBM Corp. at Shanghai, China

## Honors and Awards

- Best paper award, 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, 2015
- Chinese Government Award for Outstanding Self-financed Students Abroad, 2012
- Best paper award, 5th International Conference on Cloud Computing, 2012
- Outstanding Master Thesis of Shanghai, Shanghai Government, 2010
- Tung's Oriental Scholarship, Tung's Oriental, 2008
- HP Distinguished Chinese Student Scholarship, Hewlett-Packard, 2008
- ICDCS Student Travel Grant, TCDP (IEEE Computer Society), 2008
- Graduate Student Fellowship of Fudan University, 2007-2008 (2 times)
- Outstanding Graduated Student of Fudan University, 2006
- Excellence Award, Tencent Innovation Contest, 2006
- The Peoples Scholarship of Fudan University, 2002-2006 (4 times)
- Chinese Physics Olympiads, First Prize in Hunan Province, 2001

## Invited Talks

NKU'14 Scalable and secure cloud service in big data systems  
North Kentucky University, Newport, KY,  
Department of Computer Science,  
Feb. 24, 2014

UDel'14 Scalable and secure cloud service in big data systems  
University of Delaware, Newark, DE,  
Department of Computer and Information Sciences,  
Feb. 28, 2014

NECLab'14 Scalable and secure cloud service in big data systems  
NEC Lab America, Princeton, NJ,

IBM'14	March 7, 2014 Scalable and secure cloud service in big data systems IBM Research, Yorktown Heights, NY, March 18, 2014
MST'14	Scalable and secure cloud service in big data systems Missouri University of Science and Technology, Rolla, MO, Computer Science Department, March 31, 2014
HealthTech'14	Searching HIE with Differentiated Privacy Preservation <a href="#">[ink]</a> Usenix Security, San Diego, CA, August 31, 2014
LSU'14	Securing Key-Value Stores in the Public Cloud using Lightweight Authentication <a href="#">[ink]</a> Louisiana State University, Baton Rouge, LA, Department of Computer Science, December 16, 2014
Cornell'17	Lightweight Authentication of Freshness in Outsourced Key-Value Stores Cornell University, Ithaca, NY Department of Computer Science, Feb. 3, 2017
MoST'17	TACNY Junior Cafe Scientifique: Cloud Computing <a href="#">[ink]</a> Museum of Science & Technology, Syracuse, NY June 17, 2017