Jun Zhao | Curriculum Vitae

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Education

Carnegie Mellon University (CMU)
 PhD in Electrical and Computer Engineering
 Master in Electrical and Computer Engineering

Lab Affiliation: CyLab, CMU's cybersecurity and privacy research lab

o Shanghai Jiao Tong University B.S. in Electrical Engineering Pittsburgh, Pennsylvania, USA August 2012 – May 2015 August 2010 – August 2012

> Shanghai, China August 2006 – July 2010

Research Summary

o My future research will have two main thrusts: 1. **Data Privacy**, in particular its applications to machine learning, and 2. **Security in the Internet of Things and Cyber-Physical systems**. In general, I am interested in privacy, security, data analysis, machine learning, social networks, control, information theory, and signal processing.

o My current research covers different areas: data privacy, deep learning, security of sensor networks and embedded systems, and social networks. In terms of the publication record, I have **9 first-authored** and 2 second-authored journal papers **published/accepted in top IEEE/ACM Transactions**, including 4 papers in the prestigious **IEEE Transactions on Information Theory**. One of my first-authored papers was selected as a **finalist for the best student paper award** in IEEE International Symposium on Information Theory (ISIT) 2014, the most prestigious conference in information theory (6 finalists out of 644 accepted papers).

Research Experience

Nanyang Technological University (NTU)

Singapore

School of Computer Science and Engineering

Research Fellow

May 2017 – Present

Advisor: Xiaokui Xiao

Lab Affiliation: Data Management and Analytics Lab (DMAL)

o **Arizona State University** (Collaboration with Prof. Vincent Poor at Princeton University) Tempe, Arizona, USA School of Electrical, Computer and Energy Engineering

Postdoctoral Research Scholar May 2015 – March 2017 Advisors: Vincent Poor (Princeton University), Junshan Zhang (Arizona State University)

Advisors. Vincent roof (riniceton oniversity), Junstian Zhang (Anzona State oniver

Carnegie Mellon University (CMU)

Pittsburgh, Pennsylvania, USA

Department of Electrical and Computer Engineering

PhD Research Assistant

August 2010 – May 2015

Advisors: Osman Yağan, Virgil Gligor, Research Collaborator: Adrian Perrig

Lab Affiliation: CyLab, CMU's cybersecurity and privacy research lab

 $Google\ Scholar\ Profile:\ http://scholar.google.com.sg/citations?user=C5_alrgAAAAJ$

Publications Total Citations: 460, H Index: 13

Journal Articles

Summary

- 9 first-authored and 2 second-authored journal papers published/accepted in top IEEE/ACM Transactions of different research areas (information theory, security, privacy, control, networking, and signal processing):
 - **IEEE Transactions on Information Theory** (2 first-authored and 2 second-authored),
 - IEEE Transactions on Information Forensics and Security (1 first-authored),
 - IEEE Transactions on Automatic Control (1 first-authored),
 - IEEE/ACM Transactions on Networking (1 first-authored),
 - IEEE Transactions on Signal and Information Processing over Networks (2 first-authored),
 - IEEE Transactions on Control of Network Systems (2 first-authored).

Published/Accepted Journal Articles

- J: 1. **Jun Zhao**, Osman Yağan, and Virgil Gligor. "k-Connectivity in random key graphs with unreliable links," **IEEE Transactions on Information Theory**, volume 61, issue 7, pages 3810–3836 (27 pages), July 2015. Impact factor: 2.679, Citation: 23, DOI: http://doi.org/10.1109/TIT.2015.2425395
- J: 2. **Jun Zhao**. "Probabilistic key predistribution in mobile networks resilient to node-capture attacks," *IEEE Transactions on Information Theory*, volume 63, issue 10, pages 6714–6734 (21 pages), October 2017. Impact factor: 2.679, Citation: 1, DOI: http://doi.org/10.1109/TIT.2017.2721424
- J: 3. **Jun Zhao**. "On resilience and connectivity of secure wireless sensor networks under node capture attacks," *IEEE Transactions on Information Forensics and Security*, volume 12, issue 3, pages 557–571 (15 pages), March 2017.

Impact factor: 4.332, Citation: 10, DOI: http://doi.org/10.1109/TIFS.2016.2613841

- J: 4. **Jun Zhao**, Osman Yağan, and Virgil Gligor. "On connectivity and robustness in random intersection graphs," *IEEE Transactions on Automatic Control*, volume 62, issue 5, pages 2121–2136 (16 pages), May 2017. Impact factor: 4.27, Citation: 9, DOI: http://doi.org/10.1109/TAC.2016.2601564
- J: 5. **Jun Zhao**. "Topological properties of secure wireless sensor networks under the q-composite key predistribution scheme with unreliable links."
 - *IEEE/ACM Transactions on Networking*, volume 25, issue 3, pages 1789–1802 (14 pages), June 2017. Impact factor: 3.376, Citation: 1, DOI: http://doi.org/10.1109/TNET.2017.2653109
- J: 6. **Jun Zhao** and Junshan Zhang. "Preserving privacy enables 'co-existence equilibrium' of competitive diffusion in social networks,"
 - *IEEE Transactions on Signal and Information Processing over Networks*, volume 3, issue 2, pages 282–297 (16 pages), June 2017.

Impact factor: 1.523, Citation: 1, DOI: http://doi.org/10.1109/TSIPN.2017.2697819

- J: 7. Jun Zhao. "Analyzing resilience of interest-based social networks against node and link failures," IEEE Transactions on Signal and Information Processing over Networks, volume 3, issue 2, pages 252–267 (16 pages), June 2017. Impact factor: 1.523, Citation: 1, DOI: http://doi.org/10.1109/TSIPN.2017.2697827
- J: 8. **Jun Zhao**. "Analyzing connectivity of heterogeneous secure sensor networks," *IEEE Transactions on Control of Network Systems*, 2017 (to appear). 10 pages. Impact factor: 2.291, Citation: 2, DOI: http://doi.org/10.1109/TCNS.2016.2641799
- J: 9. **Jun Zhao**. "Transitional behavior of *q*-composite random key graphs with applications to networked control," *IEEE Transactions on Control of Network Systems*, 2017 (to appear). 10 pages. Impact factor: 2.291, Citation: 1, DOI: http://doi.org/10.1109/TCNS.2017.2754379
- J: 10. Faruk Yavuz, **Jun Zhao**, Osman Yağan, and Virgil Gligor. "Toward *k*-connectivity of the random graph induced by a pairwise key predistribution scheme with unreliable links," *IEEE Transactions on Information Theory*, volume 61, issue 11, pages 6251–6271 (21 pages), November 2015. Impact factor: 2.679, Citation: 17, DOI: http://doi.org/10.1109/TIT.2015.2471295
- J: 11. Faruk Yavuz, **Jun Zhao**, Osman Yağan, and Virgil Gligor. "k-Connectivity in random K-out graphs intersecting Erdős–Rényi graphs,"
 - *IEEE Transactions on Information Theory*, volume 63, issue 3, pages 1677–1692 (16 pages), March 2017. Impact factor: 2.679, Citation: 3, DOI: http://doi.org/10.1109/TIT.2016.2634422
- J: 12. Xiaoying Liu, Kechen Zheng, **Jun Zhao**, Xiao-Yang Liu, Xinbing Wang, and Xin Di. "Information-centric networks with correlated mobility,"
 - **IEEE Transactions on Vehicular Technology**, volume 66, issue 5, pages 4256–4270 (15 pages), May 2017. Impact factor: 4.066, Citation: 3, DOI: http://doi.org/10.1109/TVT.2016.2602373
- J: 13. Songjun Ma, Ge Chen, Luoyi Fu, Weijie Wu, Xiaohua Tian, Jun Zhao, and Xinbing Wang. "Seeking powerful information initial spreaders in online social networks: A dense group perspective," Wireless Networks (Springer), 2017 (to appear). 19 pages.

Impact factor: 1.584, Citation: 1, DOI: http://doi.org/10.1007/s11276-017-1478-1

Submitted Journal Articles

J: 14. **Jun Zhao**, Junshan Zhang, and Vincent Poor. "Dependent differential privacy," submitted to *IEEE Transactions on Information Theory*, 2017.

[Manuscript PDF]

J: 15. **Jun Zhao**. "On secure communication in sensor networks under q-composite key predistribution with unreliable links," submitted to **IEEE Transactions on Communications**, 2017. [Manuscript PDF] This paper is under second review after **minor revision** and is likely to get accepted. [Reviews of Minor Revision]

J: 16. **Jun Zhao**, Osman Yağan, and Virgil Gligor. "On asymptotically exact probability of k-connectivity in random key graphs intersecting Erdős–Rényi graphs,"

submitted to IEEE Transactions on Information Theory, 2017.

[Manuscript PDF]

Conference or Workshop Papers

Summary

- 23 **first-authored** papers published/accepted in the proceedings of **top conferences of different research areas** (distributed computing, information theory, signal processing, control, networking, security and privacy):
 - IEEE International Conference on Distributed Computing Systems (ICDCS),
 - IEEE International Symposium on Information Theory (ISIT),
 - IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP),
 - IEEE Conference on Decision and Control (CDC),
 - IEEE Allerton Conference on Communication, Control, and Computing (Allerton), organized annually by the University of Illinois at Urbana–Champaign (UIUC),
 - ACM Workshop on Privacy in the Electronic Society (**WPES**), held in conjunction with ACM SIGSAC Conference on Computer and Communications Security (CCS),
 - Cambridge International Workshop on Security Protocols, organized annually by the University of Cambridge.
- One of my first-authored papers was selected as a finalist for the best student paper award in IEEE International Symposium on Information Theory (ISIT) 2014, the most prestigious conference in information theory (6 finalists out of 644 accepted papers).

o Working Conference Papers

- W:1. Jun Zhao, Renchi Yang, and Xiaokui Xiao. "Differentially private deep learning with noise reuse," in preparation for a submission to the 2018 *ACM 44th Annual SIGMOD International Conference on Management of Data* (the most reputable conference in databases), to be held in Houston, TX, USA.
- W: 2. **Jun Zhao**. "On the correct use of the Gaussian mechanism for differential privacy," submitted to the 2018 **18th Annual Privacy Enhancing Technologies Symposium (PETS)**, to be held in Barcelona, Spain (journal-style reviewing plus conference-style presentations). [Manuscript PDF]

Published/Accepted Conference or Workshop Papers (All Referred)

- C:1. **Jun Zhao**. "Adaptive statistical learning with Bayesian differential privacy," *Proceedings of ACM 16th Annual CCS Workshop on Privacy in the Electronic Society (WPES)*, held in conjunction with ACM SIGSAC 25th Annual Conference on Computer and Communications Security (CCS), Dallas, Texas, USA, October 2017. 12 pages. **Acceptance rate (for full papers):** 14/56 = 25%. Citation: 1, DOI: http://doi.org/10.1145/3139550.3139556 (to be activated) [Manuscript PDF]
- C:2. **Jun Zhao**. "Secure connectivity of wireless sensor networks under q-composite key predistribution with on/off channels,"
 - Proceedings of IEEE 37th Annual International Conference on Distributed Computing Systems (ICDCS), pages 889–899 (11 pages), Atlanta, Georgia, USA, June 2017. Acceptance rate: $90/531 \approx 16.9\%$. Citation: 2, DOI: http://doi.org/10.1109/ICDCS.2017.186
- C: 3. **Jun Zhao**, Junshan Zhang, and Vincent Poor. "Dependent differential privacy for correlated data," *Proceedings of IEEE 5th Annual Workshop on Trusted Communications with Physical Layer Security*, held in conjunction with IEEE Annual Global Communications Conference (GLOBECOM), Singapore, December 2017.
 - Citation: 1, DOI to be assigned, Conference program: http://bit.ly/2fRDgAs

[Manuscript PDF]

C: 4. Jun Zhao. "Relations among different privacy notions,"

Proceedings of IEEE 55th Annual Allerton Conference on Communication, Control, and Computing (Allerton), UIUC, Illinois, USA, October 2017.

Citation: 0, DOI to be assigned,

[Manuscript PDF] Conference program:

 $http://conf.papercept.net/conferences/conferences/ALLER17/program/ALLER17_ContentListWeb_3.html\#thb4_01$

C: 5. **Jun Zhao**. "Composition properties of Bayesian differential privacy."

Proceedings of IEEE 28th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC): Special Session on "Resource-Efficient, Reliable and Secure Internet of Things (IoT) in the 5G Era", Montreal, Quebec, Canada, October 2017.

Citation: 0, DOI to be assigned,

[Manuscript PDF] Conference program:

http://pimrc2017.ieee-pimrc.org/files/2017/09/Special-Sessions-Technical-Program.pdf

C: 6. **Jun Zhao**. "Modeling interest-based social networks: Superimposing Erdős–Rényi graphs over random intersection graphs,"

Proceedings of IEEE 42nd Annual International Conference on Acoustics, Speech, and Signal Processing (ICASSP), pages 3704–3708, New Orleans, Louisiana, USA, March 2017.

Citation: 4, DOI: http://doi.org/10.1109/ICASSP.2017.7952848

C:7. **Jun Zhao**. "Designing secure networks with *q*-composite key predistribution under different link constraints," *Proceedings of IEEE 42nd Annual International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, pages 2077–2081, New Orleans, Louisiana, USA, March 2017.

 $Citation: 3, \ DOI: \ http://doi.org/10.1109/ICASSP.2017.7952522$

C: 8. Jun Zhao. "Initial spreaders in online social networks,"

Proceedings of IEEE 54th Annual Allerton Conference on Communication, Control, and Computing (Allerton), pages 180–186, UIUC, Illinois, USA, September 2016.

Citation: 1, DOI: http://doi.org/10.1109/ALLERTON.2016.7852227

C: 9. **Jun Zhao**. "A comprehensive guideline for choosing parameters in the Eschenauer–Gligor key predistribution," *Proceedings of IEEE 54th Annual Allerton Conference on Communication, Control, and Computing (Allerton)*, pages 1267–1273, UIUC, Illinois, USA, September 2016.
Citation: 2, DOI: http://doi.org/10.1109/ALLERTON.2016.7852380

C:10. **Jun Zhao**. "On the resilience to node capture attacks of secure wireless sensor networks,"

Proceedings of IEEE 53rd Annual Allerton Conference on Communication, Control, and Computing (Allerton), pages 887–893, UIUC, Illinois, USA, September 2015.

Citation: 4, DOI: http://doi.org/10.1109/ALLERTON.2015.7447100

C:11. Jun Zhao. "The absence of isolated node in geometric random graphs,"

Proceedings of IEEE 53rd Annual Allerton Conference on Communication, Control, and Computing (Allerton), pages 881–886, UIUC, Illinois, USA, September 2015.

Citation: 2, DOI: http://doi.org/10.1109/ALLERTON.2015.7447099

C: 12. Jun Zhao. "Sharp transitions in random key graphs,"

Proceedings of IEEE 53rd Annual Allerton Conference on Communication, Control, and Computing (Allerton), pages 1182–1188, UIUC, Illinois, USA, September 2015.

Citation: 3, DOI: http://doi.org/10.1109/ALLERTON.2015.7447142

C:13. Jun Zhao. "Threshold functions in random s-intersection graphs,"

Proceedings of IEEE 53rd Annual Allerton Conference on Communication, Control, and Computing (Allerton), pages 1358–1365, UIUC, Illinois, USA, September 2015.

Citation: 4, DOI: http://doi.org/10.1109/ALLERTON.2015.7447166

C:14. Jun Zhao. "Critical behavior in heterogeneous random key graphs,"

Proceedings of IEEE 3rd Annual Global Conference on Signal and Information Processing (GlobalSIP), pages 868–872, Orlando, Florida, USA, December 2015.

Citation: 2, DOI: http://doi.org/10.1109/GlobalSIP.2015.7418321

C: 15. Jun Zhao. "Parameter control in predistribution schemes of cryptographic keys,"

Proceedings of IEEE 3rd Annual Global Conference on Signal and Information Processing (GlobalSIP), pages 863–867, Orlando, Florida, USA, December 2015.

Citation: 4, DOI: http://doi.org/10.1109/GlobalSIP.2015.7418320

C:16. **Jun Zhao**, Osman Yağan, and Virgil Gligor. "Exact analysis of k-connectivity in secure sensor networks with unreliable links,"

Proceedings of IEEE 13th Annual International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt), pages 191–198, Mumbai, India, May 2015.

Citation: 9, DOI: http://doi.org/10.1109/WIOPT.2015.7151072

C:17. **Jun Zhao**, Osman Yağan, and Virgil Gligor. "On k-connectivity and minimum vertex degree in random s-intersection graphs,"

Proceedings of ACM-SIAM 12th Annual Meeting on Analytic Algorithmics & Combinatorics (ANALCO), pages 1–15, San Diego, California, USA, January 2015. Acceptance rate: $12/54 \approx 22.2\%$. Citation: 22, DOI: http://dx.doi.org/10.1137/1.9781611973761.1

C:18. **Jun Zhao**, Osman Yağan, and Virgil Gligor. "On topological properties of wireless sensor networks under the *q*-composite key predistribution scheme with on/off channels,"

Proceedings of IEEE Annual International Symposium on Information Theory (ISIT), pages 1131–1135, Honolulu, Hawaii, USA, June 2014. This is the most prestigious conference in information theory.

The paper is a finalist for the best student paper award (6 finalists out of 644 accepted papers).

Citation: 26, DOI: http://doi.org/10.1109/ISIT.2014.6875009

C:19. **Jun Zhao**, Osman Yağan, and Virgil Gligor. "On the strengths of connectivity and robustness in general random intersection graphs,"

Proceedings of IEEE 53rd Annual Conference on Decision and Control (CDC), pages 3661–3668, Los Angeles, California, USA, December 2014. This is the most renowned conference in control theory.

Citation: 37, DOI: http://doi.org/10.1109/CDC.2014.7039959

C: 20. **Jun Zhao**, Osman Yağan, and Virgil Gligor. "Connectivity in secure wireless sensor networks under transmission constraints,"

Proceedings of IEEE 52nd Annual Allerton Conference on Communication, Control, and Computing (Allerton), pages 1294–1301, UIUC, Illinois, USA, September 2014.

Citation: 26, DOI: http://doi.org/10.1109/ALLERTON.2014.7028605

C:21. **Jun Zhao**. "Minimum node degree and k-connectivity in wireless networks with unreliable links,"

Proceedings of **IEEE Annual International Symposium on Information Theory (ISIT)**, pages 246–250, Honolulu, Hawaii, USA, June 2014.

Citation: 14, DOI: http://doi.org/10.1109/ISIT.2014.6874832

C: 22. **Jun Zhao**, Osman Yağan, and Virgil Gligor. "Secure *k*-connectivity in wireless sensor networks under an on/off channel model,"

Proceedings of **IEEE Annual International Symposium on Information Theory (ISIT)**, pages 2790–2794, Istanbul, Turkey, July 2013.

Citation: 32, DOI: http://doi.org/10.1109/ISIT.2013.6620734

C:23. **Jun Zhao**, Virgil Gligor, Adrian Perrig, and James Newsome. "ReDABLS: Revisiting device attestation with bounded leakage of secrets,"

Proceedings of Cambridge 21st Annual International Workshop on Security Protocols (SPW), pages 94–114 (21 pages), Cambridge University, UK, March 2013 (invited paper).

Citation: 4, DOI: http://doi.org/10.1007/978-3-642-41717-7_12

C: 24. Faruk Yavuz, **Jun Zhao**, Osman Yağan, and Virgil Gligor. "Designing secure and reliable wireless sensor networks under a pairwise key predistribution scheme,"

Proceedings of IEEE Annual International Conference on Communications (ICC), pages 6277–6283, London, UK, June 2015.

Citation: 6, DOI: http://doi.org/10.1109/ICC.2015.7249324

C: 25. Faruk Yavuz, **Jun Zhao**, Osman Yağan, and Virgil Gligor. "On secure and reliable communications in wireless sensor networks: Towards *k*-connectivity under a random pairwise key predistribution scheme,"

Proceedings of IEEE Annual International Symposium on Information Theory (ISIT), pages 2381–2385, Honolulu, Hawaii, June 2014.

Citation: 26, DOI: http://doi.org/10.1109/ISIT.2014.6875260

C: 26. Xiao Wang, Xinbing Wang, and **Jun Zhao**. "Impact of mobility and heterogeneity on coverage and energy consumption in wireless sensor networks,"

Proceedings of IEEE 31st Annual International Conference on Distributed Computing Systems (ICDCS), pages 477–487, Minneapolis, Minnesota, USA, June 2011.

Citation: 28, DOI: http://doi.org/10.1109/ICDCS.2011.17

C: 27. Chenhui Hu, Xinbing Wang, Ding Nie, and **Jun Zhao**. "Multicast scaling laws with hierarchical cooperation," *Proceedings of IEEE 30th Annual Conference on Computer Communications (INFOCOM)*, pages 1–9, San Diego, California, USA, March 2010.

Citation: 32, DOI: http://doi.org/10.1109/INFCOM.2010.5462000

C: 28. Virgil Gligor, Adrian Perrig, and Jun Zhao. "Brief encounters with a random key graph,"

Proceedings of Cambridge 17th Annual International Workshop on Security Protocols (SPW), pages 157–161, Cambridge University, UK, April 2009 (invited paper).

Citation: 18, DOI: http://doi.org/10.1007/978-3-642-36213-2_19

Book Chapter

B: 1. Jun Zhao. "Topology control in secure wireless sensor networks,"

Chapter 7 in *Cyber security for industrial control systems: From the viewpoint of close-loop*, pages 183–224 (41 pages), CRC Press, Taylor & Francis Group, 2016 (invited book chapter).

Citation: 1, ISBN: 9781498734745, Preview: https://books.google.com/books?id=ScjXCwAAQBAJ&pg=PR6

Note: My publications during postdoctoral research use junzhao@alumni.cmu.edu as the contact address, whereas my publications during PhD research use junzhao@cmu.edu as the contact address. Please contact me at junzhao@alumni.cmu.edu (working permanently) instead of junzhao@cmu.edu (expired).

Teaching and Mentoring

o Courses Taught:

Introduction to Computer Security
 Applied Cryptography
 Fall 2012
 Carnegie Mellon University
 Carnegie Mellon University

o Students Mentored:

Faruk Yavuz
 August 2013-December 2014
 Master Student, Carnegie Mellon University

Research Grants

Grant Title	Awarding Agency of the USA	Sponsoring Institute	Amount in USA Dollars	My Role
Team for Research in Ubiquitous Secure Technology	National Science Foundation	Carnegie Mellon University, Cornell University, Stanford University, University of California, Berkeley, Vanderbilt University	\$40,814,545	Student Participant
Robust and Resilient Tactical MANETs	Department of Defense Multidisciplinary University Initiative (MURI)	Carnegie Mellon University, University of Illinois at Urbana–Champaign, University of Maryland, College Park, University of Washington	185 750 000	Student Participant
Perpetually Available and Secure Information Systems	Army Research Office	Carnegie Mellon University	\$3,200,000	Student Participant
Realizing Verifiable Security Properties on Untrusted Computing Platforms	National Science Foundation	Carnegie Mellon University	1\$1 01 <i>4 1</i> 00	Student Participant
Towards an Economic Foundation of Privacy-Preserving Data Analytics: Incentive Mechanisms and Fundamental Limits	National Science Foundation	Arizona State University Princeton University	\$499 999	Postdoc Participant

Academic Services

- Technical Program Committee, IEEE Global Communications Conference (GLOBECOM) 2015
- Technical Program Committee, Conference on Sensors and Networks 2015
- Session Chair, IEEE International Conference on Communications (ICC) 2015
- Session Chair, Information Theory and Applications Workshop (ITA) 2015, organized annually by the University of California, San Diego (UCSD),
- Session Co-Chair, Annual Allerton Conference on Communication, Control, and Computing (Allerton) 2014, organized annually by the University of Illinois at Urbana-Champaign (UIUC),
- Reviewers:
 - IEEE Transactions on Information Forensics and Security,
 - IEEE Transactions on Dependable and Secure Computing,
 - IEEE/ACM Transactions on Networking,
 - IEEE Transactions on Information Theory,
 - IEEE Transactions on Wireless Communication,
 - ACM SIGSAC Conference on Computer and Communications Security (CCS),
 - IEEE International Conference on Distributed Computing Systems (ICDCS),
 - IEEE International Symposium on Information Theory (ISIT),
 - IEEE Conference on Decision and Control (CDC),
 - IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC),
 - ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc).

Awards

- Arizona Computing PostDoc Best Practices Fellow, September 2016 [Certificate PDF]
- Carnegie Mellon University-College of Engineering Dean's Fellowship for PhD Study [Certificate PDF]
- Selected as a representative of Carnegie Mellon University's Department of Electrical and Computer Engineering
 to present during the "Graduation Day" at Information Theory and Applications Workshop (ITA) 2015, organized
 annually by the University of California, San Diego (UCSD)

Graduate Courses Studied at Carnegie Mellon University (CMU)

- Machine Learning Computer Networks Randomized Algorithms Algorithms in the Real World
- Introduction to Security and Policy Network Security Secure Software Systems Applied Cryptography

Programming/Software Skills

• Assembly, C, C++, Eclipse, G++, GCC, GDB, LaTex, Matlab, ns-3, SQL, Unix/Linux shells, Vim