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EDUCATION

- University of Florida** May 2018
Ph.D. in Electrical and Computer Engineering
• Advisor: Dr. Yuguang “Michael” Fang
- University of Electronic Science and Technology of China** June 2013
B.Eng. in Electrical Engineering

RESEARCH EXPERIENCE

- Assistant Professor** 2018 - Now
ECE Department, University of Alabama in Huntsville (UAH)
◊ Supervising Ph.D. students and conducting research on cybersecurity and wireless networking for applications in mobile health, Internet-of-Things and advanced wireless systems.
- Research Assistant** 2014 - 2018
Wireless Networks Laboratory, ECE Department, University of Florida
◊ Worked on 3 NSF projects and published 13 technical papers.
- Research Intern** Summer 2014
Teledyne LeCroy, Chestnut Ridge, NY, USA
◊ Developed RF front-end power amplifiers with SiGe BiCMOS and InP technology.

TEACHING EXPERIENCE

- Instructor** 2018 - Now
◊ CPE348: Introduction to Computer Networks, ECE Department, UAH, F’18’19’20, S’19’20
◊ CPE648: Advanced Computer Networks, ECE Department, UAH, F’19’20
◊ CPE499: Project in Computer Engineering, ECE Department, UAH, S’19
◊ CPE498: Cybersecurity Capstone, ECE Department, UAH, S’20
- Teaching Assistant** 2013 - 2017
◊ EEL6591: Wireless Networks, ECE Department, University of Florida, S’17
◊ EEL4598/5718: Computer Communications, ECE Department, University of Florida, F’16
◊ 14:332:382: Electromagnetic Fields, ECE Department, Rutgers University, S’14
◊ 14:332:363: Electronic Devices Laboratory, ECE Department, Rutgers University, F’13

HONORS AND AWARDS

- Best Paper Award, IEEE Int. Conf. on Hot Information-Centric Networking. 2019
Aspiring PI Awardee, Smart and Connected Health (SCH) program PI meeting, NSF. 2019

Travel Grant, Professional Development Workshop, National Security Agency (NSA).	2018
Best Journal Paper Award, IEEE Tech. Committee on Green Comm. & Comp.	2018
Student Travel Grant for IEEE ICDCS, IEEE Computer Society	2017
Graduate Student Travel Grant, University of Florida	2017
Student Travel Grant for IEEE GLOBECOM, NSF	2016
Graduate Student Fellowship, University of Florida	2014-2018
Outstanding Graduate of Sichuan Province, Sichuan, China	2013
Best Paper Award, IEEE International Workshop on MMWCST	2012

PUBLICATIONS AND PRESENTATIONS

Articles Under Review

1. D. Han, W. Chen, and **J. Liu**, "Energy-Efficient UAV Communications under Stochastic Trajectory: A Markov Decision Process Approach," IEEE Transactions on Green Communications and Networking ([IEEE TGCN](#)), (3rd round).
2. J. Fu, Z. Liao, **J. Liu**, S. Smith, and J. Wang, "Memristor Based Variation Enabled Differentially Private Learning Systems for Edge Computing in IoT," IEEE Internet of Things Journal ([IEEE IoT-J](#)), (2nd round).
3. P. He, K. Xue, **J. Liu**, and D. Wei, "FASE: Fine-grained Accountable and Space-Efficient Access Control for Multimedia Content with In-network Caching," IEEE Transactions on Dependable and Secure Computing ([IEEE TDSC](#)), (1st round).
4. **J. Liu**, Y. Pang, H. Ding, Y. Cai, H. Zhang, and Y. Fang, "Optimizing IoT Energy Efficiency on Edge (EEE): a Cross-layer Design in a Cognitive Mesh Network," IEEE Transactions on Wireless Communications ([IEEE TWC](#)), (1st round).

Referred Journal Articles

1. J. Li, K. Xue, **J. Liu**, and Y. Zhang, "A User-Centric Handover Scheme for Ultra-Dense LEO Satellite Networks," IEEE Wireless Communications Letters ([IEEE WCL](#)), in press.
2. S. Jiang, **J. Liu**, L. Wang, Y. Zhou, Y. Fang, "ESAC: An Efficient and Secure Access Control Scheme in Vehicular Named Data Networking," IEEE Transactions on Vehicular Technology ([IEEE TVT](#)), in press.
3. Y. Xing, J. Han, K. Xue, **J. Liu**, M. Pan, and P. Hong, "MPTCP Meets Big Data: Customizing Transmission Strategy for Various Data Flows," IEEE Network ([IEEE Network](#)), in press.
4. J. Li, K. Xue, D. Wei, **J. Liu**, and Y. Zhang, "Energy Efficiency and Traffic Offloading Optimization in Integrated Satellite/Terrestrial Radio Access Networks," IEEE Transactions on Wireless Communications ([IEEE TWC](#)), vol.19, no.4, pp. 2367-2381, 2020.
5. B. Feng, C. Zhang, **J. Liu**, and Y. Fang, "Turning Waste into Wealth: Free Control Message Transmissions in Indoor WiFi Networks," IEEE Transactions on Mobile Computing ([IEEE TMC](#)), in press.
6. J. Li, K. Xue, **J. Liu**, Y. Zhang, and Y. Fang, "An ICN/SDN-based Network Architecture and Efficient Content Retrieval for Future Satellite-Terrestrial Integrated Networks," IEEE Network ([IEEE Network](#)), vol.34, no.1, pp. 188-195, 2020.
7. **J. Liu**, C. Zhang, B. Lorenzo, and Y. Fang, "DPAvatar: A Real-Time Location Protection Framework for Incumbent Users in Cognitive Radio Networks," IEEE Transactions on Mobile Computing ([IEEE TMC](#)), vol.19, no.3, pp.552-565, 2020.
8. J. Pei, P. Hong, M. Pan, **J. Liu**, and J. Zhou, "Optimal VNF Placement via Deep Reinforcement Learning in SDN/NFV-Enabled Networks," IEEE Journal on Selected Areas in Communications ([IEEE JSAC](#)), vol.38, no.2, pp.263-278, 2020
9. B. Feng, C. Zhang, **J. Liu**, and Y. Fang, "D2D Communications Assisted Traffic Offloading in Integrated Cellular-WiFi Networks," IEEE Internet of Things Journal ([IEEE IoT-J](#)), vol.6, no.5, pp.8670-8680, 2019.
10. Y. Li, H. Ding, L. Zhang, **J. Liu**, X. Fang, Y. Fang, and M. Xiao, "Machine Learning Based Handovers for Sub-6 GHz and mmWave Integrated Vehicular Networks," IEEE Transactions on Wireless Communications ([IEEE TWC](#)), vol.18, no.10, pp. 4873-4885, 2019.

11. J. Han, Y. Li, **J. Liu**, and M. Zhao, "An Efficient Lucas Sequence-based Batch Auditing Scheme for the Internet of Medical Things," *IEEE Access*, vol.7, no.1, pp.10077-10092, 2019.
12. S. Jiang, X. Zhu, L. Guo, and **J. Liu**, "Publicly Verifiable Boolean Query Over Outsourced Encrypted Data," *IEEE Transactions on Cloud Computing (IEEE TCC)*, vol.7, no.3, pp. 799-813, 2019.
13. **J. Liu**, C. Zhang, and Y. Fang, "EPIC: A Differential Privacy Framework to Defend Smart Homes Against Internet Traffic Analysis," *IEEE Internet of Things Journal (IEEE IoT-J)*, vol. 5, no. 2, pp. 1206-1217, 2018.
14. B. Lorenzo, A. Shafiq, **J. Liu**, F. Gonzalez-Castano, and Y. Fang, "Data and Spectrum Trading Policies in a Trusted Cognitive Radio Dynamic Network Architecture," *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, vol.26, no.3, pp. 1502-1516, 2018.
15. H. Ding, C. Zhang, X. Li, **J. Liu**, M. Pan, Y. Fang and S. Chen, "Session-Based Cooperation in Cognitive Radio Networks: A Network-Level Approach," *IEEE/ACM Transactions on Networking (IEEE/ACM TON)*, vol.26, no.2, pp. 685-698, 2018.
16. Y. Pang, H. Ding, **J. Liu**, Y. Fang, and S. Chen, "A UHF RFID based System for Children Tracking," *IEEE Internet of Things Journal (IEEE IoT-J)*, vol. 5, no.6, pp. 5055-5064, 2018.
17. **J. Liu**, H. Ding, Y. Cai, H. Yue, Y. Fang, and S. Chen, "An Energy-Efficient Strategy for Secondary Users in Cooperative Cognitive Radio Networks for Green Communications," *IEEE Journal on Selected Areas in Communications (IEEE JSAC)*, vol. 34, no. 12, pp. 3195-3207, 2016 (**IEEE TCGCC Best Journal Paper Award**).
18. **J. Liu**, K. Song, and Y. Fan, "UWB BPF with Triple Notched bands Using Novel Dual-mode SIR and Asymmetrical Coupling Structure," *Journal of ElectroMagnetic Waves and Applications (JEMWA)*, vol. 26, no. 16, pp. 2112-2120, 2012

Referred Conference Articles

1. S. Jiang, **J. Liu**, L. Huang, H. Wu, and Y. Zhou, "Vehicular Edge Computing Meets Cache: An Access Control Scheme for Content Delivery," *IEEE International Conference on Communications (IEEE ICC'20)*, Dublin, Ireland, 2020.
2. Y. Chen, K. Xue, Y. Chen, W. Wei, **J. Liu**, and H. Yue, "STNDN: Link Aware Segmented Transmission for Named Data Networking," *IEEE International Conference on Hot Information-Centric Networking (IEEE HotICN'19)*, Chongqing, China, 2019 (**Best Paper Award**).
3. J. Qin, K. Xue, Q. Jin, W. Wei, and **J. Liu**, "Priority Service for Paying Content Providers through Dedicated Cache Leasing in Information-Centric Networking," *IEEE International Conference on Hot Information-Centric Networking (IEEE HotICN'19)*, Chongqing, China, 2019.
4. S. Sarkar, **J. Liu**, and E. Jovanov, "A Robust Algorithm for Sniffing BLE Long-Lived Connections in Real-time," *IEEE Global Communications Conference (IEEE GLOBECOM'19)*, Hawaii, USA, 2019.
5. Y. Xie, C. Zhang, L. Wei, Y. Niu, F. Wang, and **J. Liu**, "A Privacy-preserving Ethereum Lightweight Client Using PIR," *IEEE/CIC International Conference on Communications in China (IEEE/CIC ICC'19)*, Changchun, China, 2019.
6. P. He, K. Xue, J. Xu, Q. Xia, **J. Liu**, and H. Yue, "Attribute-Based Accountable Access Control For Multimedia Content With In-Network Caching," *IEEE International Conference on Multimedia and Expo (IEEE ICME'19)*, Shanghai, China, 2019.
7. S. Jiang, **J. Liu**, L. Wang, and S. Yoo, "Verifiable Search Meets Blockchain: A Privacy-Preserving Framework for Outsourced Encrypted Data," *IEEE International Conference on Communications (IEEE ICC'19)*, Shanghai, China, 2019.
8. Y. Wang, W. Hu, **J. Liu**, M. Pan, P. Zhang, and J. Lin, "An Energy-Efficient Design for Mobile UAV Fire Surveillance Networks," *IEEE International Conference on Communications (IEEE ICC'19)*, Shanghai, China, 2019.
9. S. Jiang, **J. Liu**, M. Duan, L. Wang, and Y. Fang, "Secure and Privacy-Preserving Report De-duplication in the Fog-Based Vehicular Crowdsensing System," *IEEE Global Communications Conference (IEEE GLOBECOM'18)*, Abu Dahbi, UAE, 2018.

10. S. Jiang, **J. Liu**, L. Wang, and Y. Fang, "A Secure Data Forwarding Scheme in Vehicular Named Data Networking," IEEE Global Communications Conference ([IEEE GLOBECOM'18](#)), Abu Dahbi, UAE, 2018.
11. D. Han, W. Chen, **J. Liu**, and Y. Fang, "A Probabilistic Scheduling Policy for Energy Efficient UAV Communications with Delay Constraints," IEEE Global Communications Conference ([IEEE GLOBECOM'18](#)), Abu Dahbi, UAE, 2018.
12. **J. Liu**, Y. Hu, H. Yue, Y. Gong, and Y. Fang, "A Cloud-based Secure and Privacy-Preserving Clustering Analysis of Infectious Disease," IEEE Symposium on Privacy-Aware Computing ([IEEE PAC'18](#)), Washington D.C., USA, 2018.
13. H. Zhou, Y. Niu, **J. Liu**, C. Zhang, L. Wei, and Y. Fang, "A Privacy-Preserving Networked Hospitality Service with the Bitcoin Blockchain," The 13th International Conference on Wireless Algorithms, Systems, and Applications ([WASA'18](#)), Tianjin, China, 2018.
14. K. Yang, **J. Liu**, C. Zhang, and Y. Fang, "Adversarial Examples Against the Deep Learning Based Network Intrusion Detection Systems," The IEEE Military Communications Conference ([IEEE MILOCOM'18](#)), Los Angeles, USA, 2018.
15. Y. Hu, X. Li, **J. Liu**, H. Ding, Y. Gong, and Y. Fang, "Mitigating Traffic Analysis Attack in Smartphones with Edge Network Assistance," IEEE International Conference on Communications ([IEEE ICC'18](#)), Kansas City, Missouri, 2018.
16. B. Feng, **J. Liu**, C. Zhang, and Y. Fang, "Communication through Symbol Silence: Towards Free Control Messages in Indoor WLANs," IEEE International Conference on Distributed Computing Systems ([IEEE ICDCS'17](#)), Atlanta, USA, 2017 (*acceptance ratio: 16.9%*).
17. Y. Niu, L. Wei, C. Zhang, **J. Liu**, and Y. Fang, "An Anonymous and Accountable Authentication Scheme for Wi-Fi Hotspot Access with the Bitcoin Blockchain," IEEE/CIC International Conference on Communications in China ([IEEE/CIC ICC'17](#)), Qingdao, China, 2017.
18. **J. Liu**, C. Zhang, H. Ding, H. Yue, and Y. Fang, "Policy-based Privacy-Preserving Scheme for Primary Users in Database-driven Cognitive Radio Networks," IEEE Global Communications Conference ([IEEE GLOBECOM'16](#)), Washington D.C., USA, 2016.
19. H. Ding, H. Yue, **J. Liu**, P. Si, and Y. Fang, "Energy-Efficient Secondary Traffic Scheduling with MIMO Beamforming," IEEE Global Communications Conference ([IEEE GLOBECOM'15](#)), San Diego, USA, 2015.
20. **J. Liu**, H. Yue, H. Ding, P. Si, and Y. Fang, "An Energy Efficient Cooperative Strategy for Secondary Users in Cognitive Radio Networks," IEEE Global Communications Conference ([IEEE GLOBECOM'15](#)), San Diego, USA, 2015.
21. S. Jiang, X. Zhu, L. Guo, and **J. Liu**, "Publicly Verifiable Boolean Query Over Outsourced Encrypted Data," IEEE Global Communications Conference ([IEEE GLOBECOM'15](#)), San Diego, USA, 2015.
22. **J. Liu**, K. Song, T. Pan, J. Zha, Y. Fan, and C. Zhong, "Ultra-Wideband (UWB) Bandpass Filter with Inductance-Loaded Y-Shaped Multiple-Mode Resonator," IEEE International Workshop on Microwave & Millimeter Wave Circuits & System Technology ([MMWCST'12](#)), Chengdu, China, 2012 (**Best Paper Award**).

Selected Scholarly Presentations

1. "Differentially Private Traffic Obfuscation on Connected Smart Homes," University of Science and Technology of China, Hefei, China, 2019.
2. "A Cloud-based Secure and Privacy-Preserving Clustering Analysis of Infectious Disease," IEEE PAC, Washington D.C., USA, 2018.
3. "Towards Secure and Privacy-Preserving Design in CPS: A Case Study on Connected Smart Homes," Department of Electrical and Computer Engineering, Florida State University, 2018.
4. "Communication through Symbol Silence: Towards Free Control Messages in Indoor WLANs," IEEE ICDCS, Atlanta, USA, 2017.
5. "Policy-based Privacy-Preserving Scheme for Primary Users in Database-driven Cognitive Radio Networks," IEEE GLOBECOM, Washington D.C., USA, 2016.
6. "Ultra-Wideband (UWB) Bandpass Filter with Inductance-Loaded Y-Shaped Multiple-Mode Resonator,"

IEEE MMWCST, Chengdu, China, 2012.

PROFESSIONAL SERVICES

Conference Organization

- **TPC Member:**

IEEE International Conference on Communications (**ICC**)'18,'19,'20

IEEE/CIC International Conference on Communications in China (**ICCC**)'17,'18

IEEE Global Communications Conference (**GLOBECOM**)'19,'20

IEEE International Conference on Multimedia Expo (**ICME**)'20

- **Session Chair:**

IEEE International Conference on Computing, Networking and Communications (**ICNC**)'19

IEEE International Conference on Communications (**ICC**)'19

- **Publication Chair:**

16th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (**MobiQuitous**)'19

Reviewers for Journal Submissions

IEEE Communications Surveys & Tutorials

IEEE/ACM Transactions on Networking (**TON**)

IEEE Journal of Selected Areas on Communications (**JSAC**)

IEEE Transactions on Dependable and Secure Computing (**TDSC**)

IEEE Transactions on Vehicular Technology (**TVT**)

IEEE Transactions on Mobile Computing (**TMC**)

IEEE Transactions on Big Data (**TBD**)

IEEE Transactions on Industrial Informatics (**TII**)

IEEE Transactions on Green Communications and Networking (**TGCN**)

IEEE Wireless Communications Letters

IEEE Network Magazine

IEEE Wireless Communications

IEEE Communications Magazine

ACM Computing Surveys

Journal of Communications and Information Networks (**JCIN**)

International Journal of Distributed Sensor Networks (**IJDSN**)

Ad Hoc & Sensor Wireless Networks

Selected Reviewers for Conference Submissions

IEEE ICC'18,'19,'20 IEEE Globecom'18,'19 IEEE ICDCS'17 IEEE IWCMC'17 IEEE WCNC'14

Others

Panelist, National Science Foundation 2019,2020

System Administrator, IEEE Transactions on Vehicular Technology 2014-2017

Reviewer, University of Florida Student Travel Grant 2017-2018