



College of
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Employment *Temple University* Philadelphia, Pennsylvania
Professor (7/2019-), Director of Graduate Programs (7/2020-), Department of
Computer and Information Sciences

University of North Carolina at Charlotte Charlotte, North Carolina
Adjunct Professor (8/2019-7/2022), Professor/Associate Professor/Assistant
Professor (7/2015-6/2019, 7/2010-6/2015, 8/2004-6/2010), Senior Associate Chair
/Associate Chair (5/2018-6/2019, 8/2016-4/2018), CS Ph.D. Track Coordinator
(1/2013-6/2019), Department of Computer Science

Argonne's National Laboratory Argonne, Illinois
Guest Faculty (6-8/2008), Mathematics and Computer Science Division

Lawrence Berkeley National Laboratory Berkeley, California
Student Assistant (5-8/2002, 6-8/2003), National Energy Research Scientific
Computing Center (NERSC), Computational Research Division

Education *Illinois Institute of Technology* Chicago, Illinois
Department of Computer Science (2000-2004) Ph.D., May 2004

Tsinghua University Beijing, China
Department of Computer Science & Technology (1993-2000) M.Eng., Jun. 2000
B.Eng., Jun. 1998

Research Interests Wireless networking, smart sensing, mobile computing, privacy and security

Representative Publications (300+ peer-reviewed papers, h-index 58 and 15,000+ citations¹)

Selected Journal Papers

73 Y. Xie, F. Li, Y. Wu, Y. Wang, "User Authentication on Earable Devices via Bone-Conducted Occlusion Sounds", *IEEE Trans. on Dependable and Secure Computing*, to

¹ Based on Google Scholar Citation (<http://scholar.google.com/citations?user=ouPBv-wAAAAJ>)

appear.

- 72 Y. Cao, F. Li, H. Chen, X. Liu, S. Zhai, S. Yang, Y. Wang, “Live Speech Recognition via Earphone Motion Sensors”, *IEEE Trans. on Mobile Computing*, to appear
- 71 Y. Xie, F. Li, Y. Wang, “FingerSlid: Towards Finger-sliding Continuous Authentication on Smart Devices via Vibration”, *IEEE Trans. on Mobile Computing*, to appear
- 70 Z. Zhao, F. Li, Y. Xie, Y. Wu, Y. Wang, “BSMonitor: Noise-Resistant Bowel Sound Monitoring via Earphones”, *IEEE Trans. on Mobile Computing*, to appear.
- 69 Y. Cao, F. Li, H. Chen, X. Liu, Y. Wang, “Tongue-Jaw Movement Recognition Through Acoustic Sensing on Smartphones”, *IEEE Trans. on Mobile Computing*, to appear.
- 68 Y. Cao, F. Li, H. Chen, X. Liu, S. Yang, Y. Wang, “Leveraging Wearables for Assisting the Elderly with Dementia in Handwashing”, *IEEE Trans. on Mobile Computing*, 22(11): 6554-6570, November 2023.
- 67 Y. Li, F. Li, L. Chen, L. Zhu, P. Zhou, Y. Wang, “Power of Redundancy: Surplus Client Scheduling for Federated Learning against User Uncertainties”, *IEEE Trans. on Mobile Computing*, 22(9): 5449-5462, September 2023.
- 66 H. Liang, Q. Sang, C. Hu, D. Cheng, X. Zhou, D. Wang, W. Bao, Y. Wang, “DNN Surgery: Accelerating DNN Inference on the Edge through Layer Partitioning”, *IEEE Trans. on Cloud Computing*, 11(3): 3111-3125, July-September 2023.
- 65 S. Yang, F. Li, Z. Zhou, X. Chen, Y. Wang, X. Fu, “Online Control of Service Function Chainings Across Geo-Distributed Datacenters”, *IEEE Trans. on Mobile Computing*, 22(6): 3558-3571, June 2023.
- 64 Y. Cao, F. Li, Q. Zhang, S. Yang, Y. Wang, “Towards Nonintrusive and Secure Mobile Two-Factor Authentication on Wearables”, *IEEE Trans. on Mobile Computing*, 22(5): 3046-3061, May 2023.
- 63 Y. Xie, F. Li, Y. Wu, Y. Wang, “HearFit+: Personalized Fitness Monitoring via Audio Signals on Smart Speakers”, *IEEE Transactions on Mobile Computing*, 22(5): 2756-2770, May 2023.
- 62 N. He, S. Yang, F. Li, S. Trajanovski, L. Zhu, Y. Wang, X. Fu, “Leveraging Deep Reinforcement Learning with Attention Mechanism for Virtual Network Function Placement and Routing”, *IEEE Transactions on Parallel and Distributed Systems*, 34(4): 1186-1201, April 2023.
- 61 X. Wei, A. M. Rahman, D. Cheng, Y. Wang “Joint Optimization across Timescales: Resource Placement and Task Dispatching in Edge Clouds”, *IEEE Transactions on Cloud Computing*, 11(1): 730-744, Jan-March 2023.
- 60 D. Cheng, Y. Wang, D. Dai, “Dynamic Resource Provisioning for Iterative Workloads on Apache Spark”, *IEEE Transactions on Cloud Computing*, 11(1): 639-652, Jan-March 2023.
- 59 X. Wei, Y. Wang, “Popularity-based Data Placement with Load Balancing in Edge Computing”, *IEEE Transactions on Cloud Computing*, 11(1): 397-411, Jan-March 2023.
- 58 Y. Cao, F. Li, X. Liu, S. Yang, Y. Wang, “Towards Reliable Driver Drowsiness Detection Leveraging Wearables”, *ACM Transactions on Sensor Networks*, 19(2): 39, February 2023.
- 57 Y. Wu, F. Li, Y. Xie, Y. Wang, Z. Yang, “SymListener: Detecting Respiratory Symptoms via Acoustic Sensing in Driving Environments”, *ACM Trans. on Sensor Networks*, 19(1): 3, January 2023.
- 56 J. Hou, H. Liu, Y. Liu, Y. Wang, P.-J. Wan, X.-Y. Li, “Model Protection: Real-time Privacy-preserving Inference Service for Model Privacy at the Edge”, *IEEE Transactions on Dependable and Secure Computing*, 19(6): 4270-4284, November - December 2022.

- 55 Y. Cao, F. Li, H. Chen, X. Liu, L. Zhang, Y. Wang, “Guard Your Heart Silently: Continuous Electrocardiogram Monitoring with Wrist-worn Motion Sensor”, *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 6(3):103, September 2022.
- 54 J. Wang, F. Li, S. Yang, Y. Li, Y. Wang, “A Real-time Bike Trip Planning Policy with Self-Organizing Bike Redistribution”, *IEEE Trans. on Intelligent Transportation Systems*, 23(8): 10646-10661, August 2022.
- 53 Y. Xie, F. Li, Y. Wu, S. Yang, Y. Wang, “HearSmoking: Smoking Detection in Driving Environment via Acoustic Sensing on Smartphones”, *IEEE Trans. on Mobile Computing*, 21(8): 2847 - 2860, August 2022.
- 52 Y. Wu, Y. Xie, F. Li, S. Yang, Y. Wang, “HDSpeed: Hybrid Detection of Vehicle Speed via Acoustic Sensing on Smartphones”, *IEEE Trans. on Mobile Computing*, 21(8): 2833 - 2846, August 2022.
- 51 Y. Liu, T. Feng, M. Peng, J. Guan, Y. Wang, “DREAM: Online Control Mechanisms for Data Aggregation Error Minimization in Privacy-Preserving Crowdsensing”, *IEEE Trans. on Dependable and Secure Computing*, 19(2): 1266-1279, March-April 2022.
- 50 D. Yang, D. Cheng, W. Rang, Y. Wang, “Joint Optimization of MapReduce Scheduling and Network Policy in Hierarchical Data Centers”, *IEEE Trans. on Cloud Computing*, 10(1): 461-473, January-March 2022.
- 49 Y. Li, F. Li, S. Yang, Y. Wu, H. Chen, K. Sharif, Y. Wang, “MP-Coopetition: Competitive and Cooperative Mechanism for Multiple Platforms in Mobile Crowd Sensing”, *IEEE Trans. on Services Computing*, 14(6): 1864-1876, November-December 2021.
- 48 W. Rang, D. Yang, D. Cheng, Y. Wang, “Data Life Aware Model Updating Strategy for Stream-based Online Deep Learning,” *IEEE Trans. on Parallel and Distributed Systems*, 32(10): 2571-2581, October 2021.
- 47 G. Li, Q. Zhao, Y. Wang, T. Qiu, K. Xie, L. Feng, “A Blockchain-based Decentralized Framework for Fair Data Processing”, *IEEE Trans. on Network Science and Engineering*, 8(3): 2301-2315, July-September 2021.
- 46 Y. Xie, F. Li, Y. Wu, S. Yang, Y. Wang, “Real-Time Detection for Drowsy Driving via Acoustic Sensing on Smartphones”, *IEEE Trans. on Mobile Computing*, 20(8): 2671 - 2685, August 2021.
- 45 Y. Li, F. Li, S. Yang, P. Zhou, L. Zhu, Y. Wang, “Three-stage Stackelberg Long-term Incentive Mechanism and Monetization for Mobile Crowdsensing: An Online Learning Approach”, *IEEE Trans. on Network Science and Engineering*, 8(2): 1385-1398, April-June 2021.
- 44 T. Li, Z. Qiu, L. Cao, D. Cheng, W. Wang, X. Shi, Y. Wang, “Privacy-Preserving Participant Grouping for Mobile Social Sensing over Edge Clouds”, *IEEE Trans. on Network Science and Engineering*, 8(2): 865-880, April-June 2021.
- 43 S. Yang, F. Li, S. Trajanovski, X. Chen, Y. Wang, X. Fu, “Delay-Aware Virtual Network Function Placement and Routing in Edge Clouds”, *IEEE Trans. on Mobile Computing*, 20(2): 445-459, Feb 2021.
- 42 H. Chen, F. Li, W. Du, S. Yang, M. Conn, Y. Wang, “Listen to Your Fingers: User Authentication based on Geometry Biometrics of Touch Gesture”, *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 4(3):75, September 2020.
- 41 T. Li, T. Jung, Z. Qiu, H. Li, L. Cao, Y. Wang, “Scalable Privacy-Preserving Participant Selection for Mobile Crowdsensing Systems: Participant Grouping and Secure Group

- Bidding”, *IEEE Trans. on Network Science & Engineering*, 7(2): 855-868, April-June 2020.
- 40 I. Alam, K. Sharif, F. Li, Z. Latif, M. M. Karim, S. Biswas, B. Nour, Y. Wang, “A Survey of Network Virtualization Techniques for Internet of Things Using SDN and NFV”, *ACM Computing Surveys*, 53(2): 35, April 2020.
- 39 H. Li, T. Li, W. Wang, Y. Wang, “Dynamic Participant Selection for Large-Scale Mobile Crowd Sensing”, *IEEE Trans. on Mobile Computing*, 18(12): 2842–2855, Dec 2019.
- 38 Y. Liu, L. Hao, Z. Liu, K. Sharif, Y. Wang, S. Das, “Mitigating Interference via Power Control for Two-Tier Femtocell Networks: A Hierarchical Game Approach”, *IEEE Trans. on Vehicular Technology*, 68(7): 7194-7198, July 2019.
- 37 A. Laha, B. Yin, Y. Cheng, L. X. Cai, Y. Wang, “Game Theory Based Charging Solution for Networked Electric Vehicles: A Location-Aware Approach”, *IEEE Trans. on Vehicular Technology*, 68(7): 6352-6364, July 2019.
- 36 J. Qian, X.-Y. Li, T. Jung, Y. Fan, Y. Wang, S. Tang, “Social Network De-Anonymization: More Adversarial Knowledge, More Users Re-Identified?”, *ACM Trans. on Internet Technology*, 19(3): 33, May 2019.
- 35 Q. Zhang, F. Li, S. Yang, Y. Wang, “W3W: Energy Management of Hybrid Energy Supplied Sensors for Internet of Things”, *ACM Trans. on Sensor Net.*, 15(1):10, Feb 2019.
- 34 F. Li, X. Song, H. Chen, X. Li, Y. Wang, “Hierarchical Routing for Vehicular Ad Hoc Networks via Reinforcement Learning”, *IEEE Trans. on Vehicular Technology*, 68(2): 1852-1865, Feb 2019.
- 33 D. Cheng, X. Zhou, Z. Ding, Y. Wang, M. Ji, “Heterogeneity Aware Workload Management in Distributed Sustainable Datacenters,” *IEEE Trans. on Parallel and Distributed Systems*, 30(2): 375-387, February 2019.
- 32 H. Chen, F. Li, X. Hei, Y. Wang, “CrowdX: Enhancing Automatic Construction of Indoor Floorplan with Opportunistic Encounters”, *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 2(4):159, Dec. 2018.
- 31 D. Cheng, X. Zhou, Y. Wang, C. Jiang, “Adaptive Scheduling Parallel Jobs with Dynamic Batching in Spark Streaming,” *IEEE Trans. on Parallel and Distributed Systems*, 29(12): 2672-2685, Dec 2018.
- 30 Z. Liu, S. Wang, Y. Liu, Y. Wang, “Secrecy Transmission for Femtocell Networks against External Eavesdropper”, *IEEE Trans. on Wireless Commu.*, 17(8): 5016-5028, Aug 2018.
- 29 J. Hou, X.-Y. Li, T. Jung, Y. Wang, D. Zheng, “CASTLE: Enhancing the Utility of Inequality Query Auditing without Denial Threats”, *IEEE Trans. on Information Forensics & Security*, 13(7): 1656-1669, July 2018.
- 28 L. Chang, J. Xiong, J. Wang, X. Chen, Y. Wang, Z. Tang, D. Fang, “RF-Copybook: A Millimeter Level Calligraphy Copybook based on Commodity RFID”, *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 1(4): 128, Dec 2017.
- 27 Y. Zhan, Y. Xia, Y. Li, F. Li, Y. Wang, “Incentive-Aware Time-Sensitive Data Collection in Mobile Opportunistic Crowdsensing”, *IEEE Trans. on Vehicular Technology*, 66(9): 7849-7861, September 2017.
- 26 B. Guo, Y. Ouyang, C. Zhang, J. Zhang, Z. Yu, D. Wu, Y. Wang, “CrowdStory: Fine-Grained Event Storyline Generation by Fusion of Multi-Modal Crowdsourced Data”, *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 1(3): 55, Sept. 2017.
- 25 L. Chang, X. Chen, Y. Wang, D. Fang, J. Wang, T. Xing, Z. Tang, “FitLoc: Fine-grained

- and Low-cost Device-free Localization for Multiple Targets over Various Areas”, *IEEE/ACM Trans. on Networking*, 25(4): 1994-2007, August 2017.
- 24 F. Li, H. Jiang, H. Li, Y. Cheng, Y. Wang, “SEBAR: Social Energy BAsed Routing for Mobile Social Delay Tolerant Networks”, *IEEE Trans. on Vehicular Technology*, 66(8): 7195-7206, August 2017.
- 23 B. Guo, H. Chen, Q. Han, Z. Yu, D. Zhang, Y. Wang, “Worker-Contributed Data Utility Measurement for Visual Crowdsensing Systems”, *IEEE Trans. on Mobile Computing*, 16(8): 2379-2391, August 2017.
- 22 Y. Liu, H. Wu, Y. Xia, Y. Wang, F. Li, P. Yang, “Optimal Online Data Dissemination for Resource Constrained Mobile Opportunistic Networks”, *IEEE Trans. on Vehicular Technology*, 66(6): 5301-5315, June 2017.
- 21 H. Du, J. Han, X. Jian, T. Jung, C. Bo, Y. Wang, X.-Y. Li, “Martian: Message Broadcast via LED Lights to Heterogeneous Smartphones”, *IEEE Journal on Selected Areas in Communications*, 35(5): 1154-1162, May 2017.
- 20 F. Li, Z. Yin, S. Tang, Y. Cheng, Y. Wang, “Optimization Problems in Throwbox-Assisted Delay Tolerant Networks: Which Throwboxes to Activate? How Many Active Ones I Need?”, *IEEE Trans. on Computers*, 65(5): 1663-1670, April 2016.
- 19 B. Guo, Z. Wang, Z. Yu, Y. Wang, N. Yen, R. Huang, X. Zhou, “Mobile Crowd Sensing and Computing: The Review of an Emerging Human-Powered Sensing Paradigm”, *ACM Computing Surveys*, 48(1):7, August 2015.
- 18 F. Li, S. Chen, M. Huang, Z. Yin, C. Zhang, Y. Wang, “Reliable Topology Design in Time-Evolving Delay-Tolerant Networks with Unreliable Links”, *IEEE Trans. on Mobile Computing*, 14(6): 1301-1314, June 2015.
- 17 M. Huang, S. Chen, Y. Zhu, Y. Wang, “Topology Control for Time-Evolving and Predictable Delay-Tolerant Networks”, *IEEE Trans. on Computers*, 62(11):2308-2321, Nov. 2013.
- 16 Y. Zhu, M. Huang, S. Chen, Y. Wang, “Energy-Efficient Topology Control in Cooperative Ad Hoc Networks”, *IEEE Trans. on Parallel and Distributed Systems*, 23(8):1480-1491, August 2012.
- 15 S. Chen, M. Huang, S. Tang, Y. Wang, “Capacity of Data Collection in Arbitrary Wireless Sensor Networks”, *IEEE Trans. on Parallel & Distributed Systems*, 23(1):52-60, Jan. 2012.
- 14 C. Wu, G. S. Tewolde, W. Sheng, B. Xu, Y. Wang, “Distributed Multi-Actuator Control for Workload Balancing in Wireless Sensor and Actuator Networks”, *IEEE Trans. on Automatic Control*, 56(10):2462-2467, October 2011.
- 13 Y. Wang, X.-Y. Li, W.-Z. Song, M. Huang, T. A. Dahlberg, "Energy-Efficient Localized Routing in Random Multihop Wireless Networks", *IEEE Trans. on Parallel and Distributed Systems*, 22(8):1249-1257, August 2011.
- 12 X.-Y. Li, Y. Wang, Y. Wang, "Complexity of Data Collection, Aggregation, and Selection for Wireless Sensor Networks", *IEEE Trans. on Computers*, 60(3):386-399, March 2011.
- 11 X.-Y. Li, Y. Wang, H. Chen, X. Chu, Y. Wu, Y. Qi, "Reliable and Energy Efficient Routing for Static Wireless Ad Hoc Networks with Unreliable Links", *IEEE Trans. on Parallel and Distributed Systems*, 20(10):1408-1421, October 2009.
- 10 Y. Wang, L. Cao, T. A. Dahlberg, F. Li, X. Shi, "Self-Organizing Fault Tolerant Topology Control in Large-Scale Three-Dimensional Wireless Networks", *ACM Trans. on Autonomous and Adaptive Systems*, 4(3):19, July 2009.
- 9 Y. Wang, W. Wang, X.-Y. Li, W.-Z. Song, "Interference-Aware Joint Routing and TDMA

- Link Scheduling for Static Wireless Networks", *IEEE Trans. on Parallel and Distributed Systems*, 19(12):1709-1726, December 2008.
- 8 Y. Wang, X.-Y. Li, Q. Zhang, "Efficient Algorithms for p-Self-Protection Problem in Static Wireless Sensor Network", *IEEE Trans. on Parallel and Distributed Systems*, 19(10):1426-1438, October 2008.
 - 7 W. Wang, X.-Y. Li, Y. Wang, Z. Sun, "Designing Multicast Protocols for Non-Cooperative Networks", *IEEE J. on Selected Areas in Communications*, 26(7):1238-1249, Sept 2008.
 - 6 Y. Wang, W. Wang, X.-Y. Li, "Efficient Distributed Low-Cost Backbone Formation for Wireless Networks", *IEEE Trans. on Parallel & Distributed Sys.*, 17(7):681-693, July 2006.
 - 5 X.-Y. Li, W.-Z. Song, Y. Wang, "Localized Topology Control for Heterogeneous Wireless Sensor Networks", *ACM Trans. on Sensor Networks*, 2(1):129-153, Feb. 2006.
 - 4 X.-Y. Li, Y. Wang, W.-Z. Song, "Applications of k-Local MST for Topology Control and Broadcasting in Wireless Ad Hoc Networks", *IEEE Trans. on Parallel and Distributed Systems*, 15(12):1057-1069, Dec 2004.
 - 3 X.-Y. Li, I. Stojmenovic, Y. Wang, "Partial Delaunay Triangulation and Degree Limited Localized Bluetooth Multihop Scatternet Formation", *IEEE Trans. on Parallel and Distributed Systems*, 15(4):350-361, April 2004.
 - 2 X.-Y. Li, G. Calinescu, P.-J. Wan, Y. Wang, "Localized Delaunay Triangulation with Applications in Wireless Ad Hoc Networks", *IEEE Trans. on Parallel and Distributed Systems*, 14(10):1035-1047, October 2003.
 1. K. Alzoubi, X.-Y. Li, Y. Wang, P.-J. Wan, O. Frieder, "Geometric Spanners for Wireless Ad Hoc Networks", *IEEE Trans. on Parallel & Distributed Sys.*, 14(4):408-421, Apr. 2003.

Selected Conference Papers

- 46 X. Liu, F. Li, Y. Cao, S. Zhai, S. Yang, Y. Wang, "PPGSpotter: Personalized Free Weight Training Monitoring Using Wearable PPG Sensor", *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2024.
- 45 Z. Zhao, F. Li, Y. Xie, H. Xie, K. Zhang, L. Zhang, Y. Wang, "HearBP: Hear Your Blood Pressure via In-ear Acoustic Sensing Based on Heart Sounds", *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2024.
- 44 Z. Zhao, F. Li, Y. Xie, Y. Wang, "WakeUp: Fine-Grained Fatigue Detection Based on Multi-Information Fusion on Smart Speakers", *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2023.
- 43 Y. Cao, F. Li, H. Chen, X. Liu, S. Duan, Y. Wang, "I Can Hear You Without a Microphone: Live Speech Eavesdropping from Earphone Motion Sensors", *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2023.
- 42 X. Wei, J. Liu, Y. Wang, "Joint Participant Selection and Learning Scheduling for Multi-Model Federated Edge Learning", *Proc. of IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS)*, 2022.
- 41 Y. Xie, F. Li, Y. Wu, H. Chen, Z. Zhao, Y. Wang, "TeethPass: Dental Occlusion-based User Authentication via In-ear Acoustic Sensing", *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2022.
- 40 Y. Cao, H. Chen, F. Li, Y. Wang, "Crisp-BP: Continuous Wrist PPG-based Blood Pressure", *Proc. of ACM Annual International Conference on Mobile Computing and Networking (MobiCom)*, 2021.

- 39 Y. Cao, H. Chen, F. Li, Y. Wang, “CanalScan: Tongue-Jaw Movement Recognition via Ear Canal Deformation Sensing”, *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2021.
- 38 Y. Xie, F. Li, Y. Wu, Y. Wang, “HearFit: Fitness Monitoring on Smart Speakers via Active Acoustic Sensing”, *Proc. of IEEE Conf. on Computer Communications (INFOCOM)*, 2021.
- 37 Y. Cao, H. Chen, F. Li, S. Yang, Y. Wang, “AWash: Handwashing Assistance for the Elderly with Dementia via Wearables”, *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2021.
- 36 Q. Zhang, Y. Cao, H. Chen, F. Li, S. Yang, Y. Wang, Z. Yang, Y. Liu, “airFinger: Micro Finger Gesture Recognition via NIR Light Sensing for Smart Devices”, *Proc. of IEEE International Conference on Distributed Computing (ICDCS)*, 2020.
- 35 Y. Li, Y. Liu, Y. Wang, Z. Guo, H. Yin, H. Teng, “Synergetic Denial-of-Service Attacks and Defense in Underwater Named Data Networking”, *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2020.
- 34 Y. Cao, Q. Zhang, F. Li, S. Yang, Y. Wang, “PPGPass: Nonintrusive and Secure Mobile Two-Factor Authentication via Wearables”, *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2020.
- 33 S. Alasmari, W. Wang, T. Qin, Y. Wang, “Proof of Encryption: Enforcement of Security Service Level Agreement for Encryption”, *Proc. of IEEE Conference on Dependable and Secure Computing (IDSC)*, 2019. **[Best Paper Runner-up Award]**
- 32 Y. Xie, F. Li, Y. Wu, S. Yang, Y. Wang, “D3-Guard: Acoustic-based Drowsy Driving Detection Using Smartphones”, *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2019.
- 31 J. Hou, X.-Y. Li, P. Zhu, Z. Wang, Y. Wang, J. Qian, P. Yang, “SignSpeaker: A Real-time, High-Precision SmartWatch-based Sign Language Translator”, *Proc. of ACM Annual International Conference on Mobile Computing and Networking (MobiCom)*, 2019.
- 30 J. Qian, F. Han, J. Hou, C. Zhang, Y. Wang, X.-Y. Li, “Towards Privacy-Preserving Speech Data Publishing”, *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2018.
- 29 L. Chang, J. Xiong, Y. Wang, X. Chen, J. Hu, D. Fang, “iUpdater: Low Cost Fingerprints Updating for High Accurate Device-free Localization”, *Proc. of 37th IEEE International Conference on Distributed Computing (ICDCS)*, 2017.
- 28 T. Li, T. Jung, H. Li, L. Cao, W. Wang, X.-Y. Li, Y. Wang, “Scalable Privacy-Preserving Participant Selection in Mobile Crowd Sensing”, *Proc. of IEEE 15th International Conference on Pervasive Computing and Communications (PerCom)*, 2017.
- 27 H. Chen, F. Li, Y. Wang, “EchoTrack: Acoustic Device-free Hand Tracking on Smart Phones”, *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2017.
- 26 L. Chang, X. Chen, Y. Wang, D. Fang, J. Wang, T. Xing, Z. Tang, “FitLoc: Fine-grained and Low-cost Device-free Localization for Multiple Targets over Various Areas”, *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2016.
- 25 H. Li, T. Li, Y. Wang, “Dynamic Participant Recruitment of Mobile Crowd Sensing for Heterogeneous Sensing Tasks”, *Proc. of IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS)*, 2015.
- 24 L. Zhang, C. Bo, J. Hou, X.-Y. Li, Y. Wang, K. Liu, Y. Liu, “Kaleido: You Can Watch It But Cannot Record It”, *Proc. of ACM Annual International Conference on Mobile*

- Computing and Networking (MobiCom)*, 2015.
- 23 J. Zhao, T. Jung, Y. Wang, X.-Y. Li, "Achieving Differential Privacy of Data Disclosure in the Smart Grid", *Proc. of IEEE Conf. on Computer Communications (INFOCOM)*, 2014.
 - 22 L. Liu, X. Cao, Y. Cheng, L. Du, W. Song, Y. Wang, "Energy-efficient Capacity Optimization in Wireless Networks", *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2014.
 - 21 F. Li, H. Jiang, Y. Wang, X. Li, M. Wang, T. Abdeldjalil, "SEBAR: Social Energy BASEd Routing Scheme for Mobile Social Delay Tolerant Networks", *Proc. of IEEE International Performance Computing & Communications Conf. (IPCCC)*, 2013. [**Best Paper Award**]
 - 20 F. Li, S. Chen, S. Tang, X. He, Y. Wang, "Efficient Topology Design in Time-Evolving and Energy-Harvesting Wireless Sensor Networks", *Proc. of IEEE International Conf. on Mobile Ad-hoc and Sensor Systems (MASS)*, 2013. [**Best Paper Award (Theory Track)**]
 - 19 S. Tang, J. Yuan, X.-Y. Li, Y. Wang, C. Wang, X. Liu, "MINT: Maximizing Information Propagation in Predictable Delay-Tolerant Network", *Proc. of ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, 2013.
 - 18 Y. Wang, D. Xu, X. He, C. Zhang, F. Li, B. Xu, "L2P2: Location-aware Location Privacy Protection for Location-based Services", *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2012.
 - 17 M. Huang, S. Chen, Y. Zhu, B. Xu, Y. Wang, "Topology Control for Time-Evolving and Predictable Delay-Tolerant Networks", *Proc. of IEEE Int'l Conf. on Mobile Ad-hoc & Sensor System (MASS)*, 2011. [**Best Paper Candidate**]
 - 16 Y. Zhu, M. Huang, S. Chen, Y. Wang, "Cooperative Energy Spanners: Energy-Efficient Topology Control in Cooperative Ad Hoc Networks", *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2011.
 - 15 M. Huang, S. Chen, Y. Wang, "Minimum Cost Localization Problem in Wireless Sensor Networks", *Proc. of IEEE Communications Society Conference on Sensor, Mesh, and Ad Hoc Communications and Networks (SECON)*, 2010.
 - 14 S. Chen, S.-J. Tang, M. Huang, Y. Wang, "Capacity of Data Collection in Arbitrary Wireless Sensor Networks", *Proc. of IEEE Conference on Computer Communications (INFOCOM)*, 2010.
 - 13 S. Chen, Y. Wang, X.-Y. Li, X. Shi, "Order-Optimal Data Collection in Wireless Sensor Networks: Delay and Capacity", *Proc. of IEEE Communications Society Conference on Sensor, Mesh, and Ad Hoc Communications and Networks (SECON)*, 2009.
 - 12 F. Li, Y. Wang, "Circular Sailing Routing for Wireless Networks", *Proc. of IEEE Conf. on Computer Communications (INFOCOM)*, 2008.
 - 11 Y. Wang, W.-Z. Song, W. Wang, X.-Y. Li, T.A. Dahlberg, "LEARN: Localized Energy Aware Restricted Neighborhood Routing for Ad Hoc Networks", *Proc. of IEEE Conference on Sensor, Mesh, and Ad Hoc Communications and Networks (SECON)*, 2006.
 - 10 W. Wang, Y. Wang, X.-Y. Li, W.-Z. Song, O. Frieder, "Efficient Interference-Aware TDMA Link Scheduling for Static Wireless Networks", *Proc. of ACM Annual International Conference on Mobile Computing and Networking (MobiCom)*, 2006.
 - 9 W. Wang, S. Eidenbenz, Y. Wang, X.-Y. Li, "OURS: Optimal Unicast Routing Systems in Non-Cooperative Wireless Networks", *Proc. of ACM Annual International Conference on Mobile Computing and Networking (MobiCom)*, 2006.
 - 8 Y. Wang, W. Wang, X.-Y. Li, "Distributed Low-Cost Backbone Formation for Wireless Ad Hoc Networks", *Proc. of ACM International Symposium on Mobile Ad Hoc Networking*

- and Computing (MobiHoc)*, 2005.
7. W. Wang, X.-Y. Li, Z. Sun, Y. Wang, "Design Multicast Protocols for Non-Cooperative Networks", *Proc. of Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM)*, 2005.
 6. W. Wang, X.-Y. Li, Y. Wang, "Truthful Multicast in Selfish Wireless Networks", *Proc. of ACM Annual Int'l Conf. on Mobile Computing and Networking (MobiCom)*, 2004.
 5. W.-Z. Song, Y. Wang, X.-Y. Li, O. Frieder, "Localized Algorithms for Energy Efficient Topology in Wireless Ad Hoc Networks", *Proc. of ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, 2004.
 4. X.-Y. Li, Y. Wang, P.-J. Wan, W.-Z. Song, O. Frieder, "Localized Low-Weight Graph and Its Applications in Wireless Ad Hoc Networks", *Proc. of Annual Joint Conference of the IEEE Computer and Communications Societies (INFOCOM)*, 2004.
 3. X.-Y. Li, P.-J. Wan, Y. Wang, C.-Y. Yi, "Fault Tolerant Deployment and Topology Control in Wireless Networks", *Proc. of ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, 2003.
 2. Y. Wang, X.-Y. Li, "Geometric Spanners for Wireless Ad Hoc Networks", *Proc. of IEEE International Conference on Distributed Computing Systems (ICDCS)*, 2002
 1. X.-Y. Li, P.-J. Wan, Y. Wang, O. Frieder, "Sparse Power Efficient Topology for Wireless Networks", *Proc. of IEEE 35th Hawaii International Conference on System Sciences (HICSS-35)*, 2002. [**Best Paper Award**]

**Research
Funding
(Selected)**

AirEdge: Robust Airborne Network with Adaptive Edge Computing using Swarming UAVs, PIs: Y. Wang, T. Han (New Jersey Institute of Technology), P. Wang (UNC Charlotte), 10/2020 to 9/2024, National Science Foundation

A Hybrid NVM based Computing Architecture for Machine Learning Applications, PI: D. Cheng, Co-PI: Y. Wang, 10/2019-9/2023, National Science Foundation

Tier 1 UTC: Center for Advanced Multimodal Mobility Solutions and Education, PI: W. Fan, Co-PIs: Y. Wang, M. Kane, D. Weggel, M. Pando; and other teams from Texas Southern Univ., Univ. of Connecticut, UT Austin, and Washington State Univ., 12/2016-12/2021, Department of Transportation

Accelerating Spectrum Access in Cognitive Radio Networks via Social Analysis of Secondary Users, PI: J. Xie, Co-PIs: Y. Wang & Y. Cao, 1/2014-12/2018, National Science Foundation

Towards Reliable, Energy-Efficient, and Secure Vehicular Networks, PIs: Y. Wang and Y. Cheng (Illinois Institute of Technology), 1/2014-12/2017, National Science Foundation

Topology Design in Socio-Temporal Evolving Wireless Networks, PI: Y. Wang, 9/2010-8/2013, National Science Foundation

An Integrated Environment-Independent Approach to Topology Control in Wireless Ad Hoc Networks, PIs: Y. Wang, H. Sethu (Drexel University), and L. Cheng (Lehigh University), 8/2009-7/2013, National Science Foundation

Topology and Routing Design for Three-Dimensional Sensor Networks: Geometric Approaches, PI: Y. Wang, 9/2007-8/2011, National Science Foundation

A Microeconomic Approach: Protocol Design for Ubiquitous and Integrated Networks, PI: Y. Wang, 6/2006-5/2007, Oak Ridge Associated Universities
(Ralph E. Powe Junior Faculty Enhancement Awards)

Awards

Editor's Choice Articles, Sensors by MDPI, August 2022
AAIA Fellow, Asia-Pacific Artificial Intelligence Association (AAIA), June 2021
ACM Distinguished Member (2020), for outstanding scientific contributions to computing, ACM, December 2020
Best Paper Runner-up Award, IEEE Conference on Dependable and Secure Computing (IDSC 2019), Hangzhou, China, November 2019
IEEE Fellow (2018), for contributions to topology design and performance optimization in wireless networks, IEEE, November 2017
Best Poster Award, ACM 22nd Annual International Conference on Mobile Computing and Networking (ACM MobiCom), October 2016
Best Paper Award, Tsinghua Science and Technology, 2015
Best Paper Award, IEEE 32nd International Performance Computing and Communications Conference (IEEE IPCCC), 2013
Best Paper Award (Theory Track), 10th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS), 2013
Prolific Reviewer, IEEE Transactions on Parallel and Distributed Systems, 2013
Excellence in Graduate Teaching Award, College of Computing and Informatics, University of North Carolina at Charlotte, 2012
Best Paper Candidate, 8th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (IEEE MASS), 2011
Outstanding Faculty Research Award, College of Computing and Informatics, University of North Carolina at Charlotte, 2008
Winner of Performance Award and First Place of Presentation Award, the Mobile Ad-hoc Networking Interoperability and Cooperation (MANIAC) Challenge 2007, 2007
Ralph E. Powe Junior Faculty Enhancement Awards, Oak Ridge Associated Universities, 2006
Sigma Xi Award, Illinois Institute of Technology, 2004
Best Student Paper Award and Teaching Assistant of The Year, Department of Computer Science, Illinois Institute of Technology, 2003
Best Paper Award, IEEE 35th Hawaii International Conference on System Sciences (IEEE HICSS-35) (Software Track), 2002

Service

Editorial Board Member for Journal (Selected):

| | |
|---|-----------|
| IEEE Transactions on Cloud Computing | 2021~ |
| IEEE Transactions on Parallel and Distributed Systems | 2013~2016 |
| Intelligent and Converged Networks | 2020~ |
| Big Data Mining and Analytics | 2017~ |
| Tsinghua Science and Technology | 2012~ |

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|--|-----------|
| International Journal of Ad Hoc and Ubiquitous Computing | 2006~2017 |
| International Journal of Distributed Sensor Networks | 2013~2016 |
| KSII Transactions on Internet and Information Systems | 2012~2016 |
| Ad Hoc & Sensor Wireless Networks | 2009~2013 |

Guest Editor for Journal: IEEE Transactions on Sustainable Computing, IEEE Transactions on Industrial Informatics, Computer Communications (Elsevier), EURASIP Journal on Wireless Communications and Networking, Sensors (MDPI), International Journal of Network Management (Wiley), International J. of Distributed Sensor Networks, Tsinghua Science and Technology, CCF Transactions on Pervasive Computing and Interaction, Intelligent and Converged Networks, Journal of Computer Science and Technology, Cluster Computing, Ad Hoc & Sensor Wireless Networks Journal, International J. of Parallel, Emergent and Distributed Systems, etc.

Conference/Workshop Organizer (Selected):

General Co-Chair, 7th ACSIC Symposium on Frontiers in Computing (SOFC 2024), 2024

Program Co-Chair, 20th IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS 2023), 2023

Program Chair, International Workshop on Intelligent and Converged Networks (WICN 2023), co-located with IEEE MASS 2023, 2023

Finance Chair, 24th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc 2023), 2023

General Co-Chair: 2nd and 7th International Conference on Big Data Computing and Communications (BigCom 2016/2021), 2016/2021

International Advisory Committee: IEEE workshop on Security and Privacy in Distributed Ledger Technology (IEEE SP-DLT), in conjunction with IEEE MASS 2020, 2020

International Liaison Chair: 15th International Conference on Green, Pervasive and Cloud Computing (GPC 2020), 2020

General Co-Chair: IEEE 32nd, 33rd, and 38th International Performance Computing and Communications Conference (IPCCC), 2013/2014/2019

General Co-Chair: 4th-6th International Workshop on Crowd Assisted Sensing, Pervasive Systems and Communications (CASPer), 2017/2018/2019

Track Co-Chair: Social Networks & Computing (SNC) Track, 24th & 26th International Conference on Computer Communications and Networks (ICCCN 2016/2018), 2016/2018

Program Co-Chair: 9th IEEE International Conference on Cyber, Physical and Social Computing (CPSCoM), 2016

Program Co-Chair: 1st International Conference on Big Data Computing and Communications (BigCom 2015), 2015

Program Vice Chair: 20th IEEE International Conf. on Parallel and Distributed Systems (ICPDS 2015), Security and Trustworthy Computing Track, 2015

Symposium Co-Chair: Wireless Networks Symposium, International Conference on Computing, Networking and Communications (ICNC 2015), 2015

EDAS Chair: 15th ACM International Symposium on Mobile Ad Hoc

Networking and Computing (MobiHoc 2014), 2014
Submission Chair: 10th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS 2013), 2013
Program Co-Chair, 3rd International Workshop on Cyber-Physical Networking Systems (CPNS 2013), 2013
Finance Chair, 13th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc 2012), 2012
Program Co-Chair, IEEE 26th and 30th International Performance Computing and Communications Conference (IPCCC 2007/2011), 2007/2011
Program Co-Chair, 1st and 2nd ACM Int'l Workshop on Foundations of Wireless Ad Hoc and Sensor Networking and Computing (FOWANC), 2008/2009
Program Co-Chair, Workshop on Wireless Ad hoc and Sensor Networks (WWASN 2007), 2007

Steering Committee Members for Conference:

IEEE International Performance Computing and Communications Conference (IPCCC), (2015~present)
International Conference on Big Data Computing and Communications (BigCom), (2015~present)
ACM International Workshop on Foundations of Wireless Ad Hoc and Sensor Networking and Computing (FOWANC), (2008~2009)

Technical Program Committee Members for Conference (Selected):

ACM Int'l Symp. on Mobile Ad Hoc Networking & Computing (MobiHoc 2014),
IEEE Annual Conf. on Computer Communications (INFOCOM 2005, 08-24),
IEEE Int'l Conference on Distributed Computing Systems (ICDCS 2015),
IEEE International Conference on Communications (ICC 2007-12,14,15,18-23),
IEEE Global Telecommunications Conference (Globecom 2006, 09-15),
IEEE Wireless Communications & Networking Conf. (WCNC 2009, 11, 13-16),
IEEE Int'l Performance Comp. & Commu. Conf. (IPCCC 05, 06, 09, 10, 18),
IEEE Int'l Parallel & Distributed Processing Symposium (IPDPS 2016, 20)
International World Wide Web Conference, (WWW 2018)
IEEE Int'l Conf. on Mobile Ad-hoc & Sensor Systems (MASS 2005, 07, 10-13),
IEEE Int'l Conf. on Computer Commu. & Networks (ICCCN 2005,07,08,15,20),
IEEE Int'l Symp. on Personal, Indoor & Mob. Radio Commu. (PIMRC 08,11-13).

Proposal Panelist / Reviewer:

National Science Foundation (NSF), NASA Advanced Information Systems Technology (AIST) Program, US DOE/ARPA-E SENSORS Program, Natural Sciences and Engineering Research Council of Canada (NSERC), Swiss National Science Foundation (SNSF), Chilean Science Agency (CONICYT), Research Grant Council (RGC) of Hong Kong, Science Fund of the Republic of Serbia, North Dakota State University Advanced Program, North Dakota EPSCoR Program, Maryland Technology Transfer and Commercialization Fund, Ontario Research Fund, Professional Staff Congress - City University of New York, King Abdulaziz University - Saudi Arabia, AAAS Program - the King Abdulaziz City for Science and Technology (KACST).

Service in Professional Society:

Member, IEEE Computer Society Fellows Evaluation Committee (2019 & 2020)
Chair of Communication Chapter, IEEE Charlotte Section (2012~2014, 2018)
Board Member, Tsinghua Alumni Academic Club (2018~2021, VP 2021~2022)

Teaching

Temple University (Spring 2020-):

CIS 3223, Data Structures and Algorithms
CIS 3319, Wireless Network and Security
CIS 5639, Wireless Network and Communication
CIS 5637, Network and Information Security

University of North Carolina at Charlotte (Fall 2004-Spring 2019):

ITCS3166, Introduction to Computer Networks
ITCS6010/8010, Mobile Ad Hoc Networks and Computing
ITCS6132/8132, Modeling and Analysis of Communication Networks
ITCS6166/8166, Computer Communications and Networks
ITCS6167/8167, Advanced Networking Protocol
ITCS6168/8168, Wireless Communication Networks

Tsinghua University (Spring 2011):

Y0240271, Advanced Topics in Ad Hoc and Sensor Networks

Students

Current: *PhD students-* Jiyao Liu (2021-), Xuanzhang Liu (2021-).

Previous: *PhD graduates-* Fan Li (2005-08), Minsu Huang (2007-12), Siyuan Chen (2007-12), Ying Zhu (2010-13), Cheng Bo (2014-16), Hanshang Li (2014-18), Ting Li (2014-2019), A B M Mohaimenur Rahman (2017-22), Xinliang Wei (2019-2023); *Master graduates-* Bhavanichikar Harish (2009), Chao Zhang (2014), Teja Kanchinadam (2016); *Undergraduate students-* Sergey Begun (2007-08), Will Tune (Summer 2009), Yong Sun (2011-12), Layla Lajami (2014), Matthew Coon (Summer 2019), Qinghua Lu (Fall 2020), Jackie Gan (2022-23);

Membership

Fellow of IEEE, Distinguished Member of ACM, Fellow of AAIA, Member of AAAS