

# Ruozhou Yu

*Assistant Professor in Computer Science*

North Carolina State University  
Raleigh, NC 27606  
☎ 919-515-7938  
✉ [ryu5@ncsu.edu](mailto:ryu5@ncsu.edu)  
📄 [ruozhou.github.io](https://ruozhou.github.io)

## RESEARCH INTERESTS

- Systems** Edge computing, mobile/wireless networks, intelligent systems, blockchain systems and networks, real-time systems, emerging networked systems
- Theory** Algorithm design, machine learning, network protocols, network optimization, resource allocation, game theory, incentive mechanisms, robust optimization, uncertainty quantification, cryptography

## EDUCATION

**2013–2019 Ph.D. in Computer Science, Arizona State University (ASU).**

Advisor Dr. Guoliang Xue | ✉ [xue@asu.edu](mailto:xue@asu.edu) | 🌐 [www.public.asu.edu/~gxue1/](http://www.public.asu.edu/~gxue1/)

Dissertation Smart Resource Allocation in Internet-of-Things: Perspectives of Network, Security, and Economics

**2009–2013 B.S. in Computer Science, Beijing University of Posts and Telecommunications (BUPT).**

## PROFESSIONAL EXPERIENCES

**2019–present Assistant Professor, Computer Science Department, North Carolina State University.**

## RESEARCH EXPERIENCES

**2013–2019 Research/Teaching Assistant, Optimization and Network Research Lab, ASU**

Supervisor Dr. Guoliang Xue | ✉ [xue@asu.edu](mailto:xue@asu.edu) | 🌐 [www.public.asu.edu/~gxue1/](http://www.public.asu.edu/~gxue1/)

Topics IoT/CPS, Cloud/Edge, Mobile/Wireless, SDN, DCN, Blockchain, Robustness, Optimization

**2012–2013 Research Assistant, Tsinghua University**

Supervisor Dr. Dan Li | ✉ [tolidan@tsinghua.edu.cn](mailto:tolidan@tsinghua.edu.cn) | 🌐 [nasp.cs.tsinghua.edu.cn/lidan.html](http://nasp.cs.tsinghua.edu.cn/lidan.html)

Topics DCN, Cloud Computing, Next-Generation Routing

**2011–2012 Research Assistant, BUPT**

Supervisor Dr. Jun Huang | ✉ [xiaoniuaadmin@gmail.com](mailto:xiaoniuaadmin@gmail.com)

Topics Cloud Service Composition, Approximation Algorithms

## PUBLICATIONS

**Conferences (38 published/accepted, in reverse chronological order)**

(Authors with “\*” indicate students under supervision at the time of submission)

- C.1 Huayue Gu\*, **Ruozhou Yu**, Zhouyu Li\*, Xiaojian Wang\*, Guoliang Xue, “QuESat: Satellite-Assisted Quantum Internet for Global-Scale Entanglement Distribution,” accepted by *IEEE International Conference on Computer Communications (INFOCOM)*, pp. 1–10, May 2025.

- C.2 Xuanhao Luo, Zhiyuan Peng, Zhouyu Li\*, **Ruozhou Yu**, Yuchen Liu, "Rank-Based Modeling for Universal Packets Compression in Multi-Modal Communications," accepted by *IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM)*, pp. 1–10, May 2025.
- C.3 Kurt Wilson, Abdullah Al Arafat, John Baugh, **Ruozhou Yu**, Xue Liu, Zhishan Guo, "Soteria: A Formal Digital-Twin Framework for Safety-Assurance of Latency-Aware Safety-Critical Cyber-Physical Systems," accepted by *ACM International Conference on Hybrid Systems: Computation and Control (HSCC)*, pp. 1–11, May 2025.
- C.4 Kurt Wilson, Abdullah Al Arafat, John Baugh, **Ruozhou Yu**, Zhishan Guo, "Physics-Informed Mixed-Criticality Scheduling for F1Tenth Cars with Preemptable ROS 2 Executors," accepted by *IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS)*, pp. 1–13, May 2025.
- C.5 Huayue Gu\*, Zhouyu Li\*, Xiaojian Wang\*, Dejun Yang, Guoliang Xue, **Ruozhou Yu**, "Mi-Co: Models and Algorithms for Cost-efficient Entanglement Distribution in the Quantum Internet," in *IEEE International Conference on Quantum Communications, Networking, and Computing (Q CNC)*, pp. 1–8, March 2025. (First two authors contributed equally.)
- C.6 Zhouyu Li\*, Pinxiang Wang\*, Xiaochun Liang\*, Xuanhao Luo, Yuchen Liu, Xiaojian Wang\*, Huayue Gu\*, **Ruozhou Yu**, "AdaOrb: Adapting In-Orbit Analytics Models for Location-aware Earth Observation Tasks," in *IEEE International Conference on Pervasive Computing and Communications (PerCom)*, pp. 1–7, 2025.
- C.7 Xiaojian Wang\*, **Ruozhou Yu**, Dejun Yang, Guoliang Xue, "Infiltrating the Sky: Data Delay and Overflow Attacks in Earth Observation Constellations," in *IEEE International Conference on Network Protocols (ICNP)*, pp. 1–10, 2024.
- C.8 Guoliang Xue, Alena Chang, Xuanli Lin, **Ruozhou Yu**, Dejun Yang, "Max-min Hub Pricing in Payment Channel Networks," in *IEEE Global Communications Conference (GLOBECOM)*, pp. 1–6, 2024.
- C.9 Xiaojian Wang\*, **Ruozhou Yu**, Dejun Yang, Huayue Gu\*, Zhouyu Li\*, "VeriEdge: Verifying and Enforcing Service Level Agreements for Pervasive Edge Computing," in *IEEE International Conference on Computer Communications (INFOCOM)*, pp. 1–10, 2024.
- C.10 Qiushi Wei, Dejun Yang, **Ruozhou Yu**, Guoliang Xue, "Thor: A Virtual Payment Channel Network Construction Protocol over Cryptocurrencies," in *IEEE International Conference on Computer Communications (INFOCOM)*, pp. 1–10, 2024.
- C.11 Stuart Pelletier, **Ruozhou Yu**, George Rouskas, Jianqing Li, "Qubit Recycling in Entanglement Distillation," in *IEEE International Conference on Quantum Computing and Engineering (QCE)*, 2023.
- C.12 Huayue Gu\*, **Ruozhou Yu**, Zhouyu Li\*, Xiaojian Wang\*, Fangtong Zhou\*, "ESDI: Entanglement Scheduling and Distribution in the Quantum Internet," in *IEEE International Conference on Computer Communications and Networks (ICCCN)*, 2023.
- C.13 Zhouyu Li\*, **Ruozhou Yu**, Anupam Das, Shaohu Zhang, Huayue Gu\*, Xiaojian Wang\*, Fangtong Zhou\*, Afaq Sabir, Dilawer Ahmed, Ahsan Zafar, "INSPIRE: Instance-level Privacy-preserving Transformation for Vehicular Camera Videos," in *IEEE International Conference on Computer Communications and Networks (ICCCN)*, 2023.

- C.14 **Ruozhou Yu**, Huayue Gu\*, Xiaojian Wang\*, Fangtong Zhou\*, Guoliang Xue, Dejun Yang, "EA-Market: Empowering Real-Time Big Data Applications with Short-Term Edge SLA Leases," in *IEEE International Conference on Computer Communications and Networks (ICCCN)*, 2023.
- C.15 Fangtong Zhou\*, **Ruozhou Yu**, Zhouyu Li\*, Huayue Gu\*, Xiaojian Wang\*, "FedAegis: Edge-Based Byzantine-Robust Federated Learning for Heterogeneous Data," in *IEEE Global Communications Conference (GLOBECOM)*, 2022.
- C.16 Xiaojian Wang\*, Huayue Gu\*, Zhouyu Li\*, Fangtong Zhou\*, **Ruozhou Yu**, Dejun Yang, "Why Riding the Lightning? Equilibrium Analysis for Payment Hub Pricing," in *IEEE International Conference on Communications (ICC)*, 2022.
- C.17 **Ruozhou Yu**, Szu-Yu Lo\*, Fangtong Zhou\*, Guoliang Xue, "Data-Driven Edge Resource Provisioning for Inter-Dependent Microservices with Dynamic Load," in *IEEE Global Communications Conference (GLOBECOM)*, 2021.
- C.18 Yuhui Zhang, Dejun Yang, Guoliang Xue, **Ruozhou Yu**, "Counter-Collusion Smart Contracts for Watchtowers in Payment Channel Networks," in *IEEE International Conference on Computer Communications (INFOCOM)*, 2021. [AR: 252/1266=19.9%]
- C.19 **Ruozhou Yu**, Guoliang Xue, Yinxin Wan, Jian Tang, Dejun Yang, Yusheng Ji, "Robust Resource Provisioning in Time-Varying Edge Networks," in *ACM International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing (MobiHoc)*, 2020. [AR: 30/196=15.3%]
- C.20 Vishnu Teja Kilari, **Ruozhou Yu**, Satyajayant Misra, Guoliang Xue, "EARS: Enabling Private Feedback Updates in Anonymous Reputation Systems," in *IEEE Conference on Communications and Network Security (CNS)*, 2020.
- C.21 **Ruozhou Yu**, Yinxin Wan, Vishnu Teja Kilari, Guoliang Xue, Jian Tang, Dejun Yang, "P4PCN: Privacy-Preserving Path Probing for Payment Channel Networks," in *IEEE Global Communications Conference (GLOBECOM)*, 2019.
- C.22 **Ruozhou Yu**, Vishnu Teja Kilari, Guoliang Xue, Dejun Yang, "Load Balancing for Interdependent IoT Microservices," in *IEEE International Conference on Computer Communications (INFOCOM)*, 2019. [AR: 288/1464=19.7%]
- C.23 **Ruozhou Yu**, Guoliang Xue, Vishnu Teja Kilari, Dejun Yang, Jian Tang, "CoinExpress: A Fast Payment Routing Mechanism in Blockchain-based Payment Channel Networks," in *IEEE International Conference on Computer Communications and Networks (ICCCN)*, 2018.
- C.24 **Ruozhou Yu**, Guoliang Xue, Vishnu Teja Kilari, Xiang Zhang, "Deploying Robust Security in Internet of Things," in *IEEE Conference on Communications and Network Security (CNS)*, 2018.
- C.25 **Ruozhou Yu**, Guoliang Xue, Xiang Zhang, "Application Provisioning in Fog Computing-enabled Internet-of-Things: A Network Perspective," in *IEEE International Conference on Computer Communications (INFOCOM)*, 2018. [Best Paper finalist (9/309), Best-in-Session Presentation] [AR: 309/1606=19.2%]
- C.26 Xiang Zhang, Dejun Yang, Guoliang Xue, **Ruozhou Yu**, Jian Tang, "Transmitting and Sharing: a Truthful Double Auction for Cognitive Radio Networks," in *IEEE International Conference on Communications (ICC)*, 2018.

- C.27 **Ruozhou Yu**, Guoliang Xue, Xiang Zhang, Dan Li, "Survivable and Bandwidth-Guaranteed Embedding of Virtual Clusters in Cloud Data Centers," in *IEEE International Conference on Computer Communications (INFOCOM)*, 2017. [AR: 292/1395=20.9%]
- C.28 Xiang Zhang, Guoliang Xue, **Ruozhou Yu**, Dejun Yang, Jian Tang, "Robust Incentive Tree Design for Mobile Crowdsensing," in *IEEE International Conference on Distributed Computing Systems (ICDCS)*, 2017. [AR: 89/531=16.8%]
- C.29 Yaozhong Song, Stephen S. Yau, **Ruozhou Yu**, Xiang Zhang, Guoliang Xue, "An Approach to QoS-based Task Distribution in Edge Computing Networks for IoT Applications," in *IEEE International Conference on Edge Computing (EDGE)*, 2017. [Best Student Paper]
- C.30 **Ruozhou Yu**, Guoliang Xue, Xiang Zhang, Jian Tang, "Non-preemptive Coflow Scheduling and Routing," in *IEEE Global Communications Conference (GLOBECOM)*, 2016.
- C.31 Jun Huang, Shihao Li, Qiang Duan, **Ruozhou Yu**, Shui Yu, "QoS Correlation-Aware Service Composition for Unified Network-Cloud Service Provisioning," in *IEEE Global Communications Conference (GLOBECOM)*, 2016.
- C.32 **Ruozhou Yu**, Shuang Qin, Mehdi Bennis, Xianfu Chen, Gang Feng, Zhu Han, Guoliang Xue, "Enhancing Software-Defined RAN with Collaborative Caching and Scalable Video Coding," in *IEEE International Conference on Communications (ICC)*, 2016.
- C.33 Xiang Zhang, Guoliang Xue, **Ruozhou Yu**, Dejun Yang, Jian Tang, "Truthful Incentive Mechanisms for Crowdsourcing," in *IEEE Conference on Computer Communications (INFOCOM)*, 2015. [AR: 316/1640=19.3%]
- C.34 **Ruozhou Yu**, Guoliang Xue, Xiang Zhang, "Towards Min-Cost Virtual Infrastructure Embedding," in *IEEE Global Communications Conference (GLOBECOM)*, 2015.
- C.35 Xiang Zhang, Guoliang Xue, Dejun Yang, **Ruozhou Yu**, "A Sybil-proof and Time-sensitive Incentive Tree Mechanism for Crowdsourcing," in *IEEE Global Communications Conference (GLOBECOM)*, 2015.
- C.36 Xiang Zhang, Guoliang Xue, Dejun Yang, **Ruozhou Yu**, Xiaoyan Huang, "TSA: A Framework of Truthful Spectrum Auctions under the Physical Interference Model," in *IEEE International Conference on Communications (ICC)*, 2015.
- C.37 Xiang Zhang, Guoliang Xue, **Ruozhou Yu**, Dejun Yang, Jian Tang, "You Better Be Honest: Discouraging Free-Riding and False-Reporting in Mobile Crowdsourcing," in *IEEE Global Communications Conference (GLOBECOM)*, 2014.
- C.38 **Ruozhou Yu**, Xudong Yang, Jun Huang, Qiang Duan, Yan Ma, Yoshiaki Tanaka, "QoS-aware Service Selection in Virtualization-based Cloud Computing," in *IEEE Asia-Pacific Network Operations and Management Symposium (APNOMS)*, 2012.

#### **Journals (18 published/accepted, in reverse chronological order)**

(Impact factors as of Mar. 2019 or at the time of acceptance, whichever is later)

- J.1 Jianqing Liu, Thanh Le, Tingxiang Ji, **Ruozhou Yu**, Dmitry Farfurnik, Greg Byrd, Daniel Stancil, "The Road to Quantum Internet: Progress in Quantum Network Testbeds and Major Demonstrations," accepted by *Elsevier Progress in Quantum Electronics*, pp. 1–44, 2024. [Impact Factor: 7.4]

- J.2 Huayue Gu\*, Zhouyu Li\*, **Ruozhou Yu**, Xiaojian Wang\*, Fangtong Zhou\*, Jianqing Liu, Guoliang Xue, "FENDI: High-Fidelity Entanglement Distribution in the Quantum Internet," *IEEE/ACM Transactions on Networking*, vol. 32, no. 6, pp. 5033–5048, 2024. [Impact Factor: 3.9] (First two authors contributed equally.)
- J.3 Xiaojian Wang\*, **Ruozhou Yu**, Dejun Yang, Guoliang Xue, Huayue Gu\*, Zhouyu Li\*, Fangtong Zhou\*, "Fence: Fee-based Online Balance-aware Routing in Payment Channel Networks," *IEEE/ACM Transactions on Networking (ToN)*, vol. 32, no. 2, pp. 1661–1672, 2024. [Impact Factor: 3.7]
- J.4 Jiangping Han, Kaiping Xue, Jian Li, Yitao Xing, **Ruozhou Yu**, David Wei, and Guoliang Xue, "FMPTCP: Achieving High Bandwidth Utilization and Low Latency in Data Center Networks," *IEEE Transactions on Communications (TCOM)*, vol. 72, no. 1, pp. 317–333, 2024. [Impact Factor: 8.3]
- J.5 Mei Wang, Jing Chen, Kun He, **Ruozhou Yu**, Ruiying Du, and Zhihao Qian, "UFinAKA: Fingerprint-Based Authentication and Key Agreement With Updatable Blind Credentials," *IEEE/ACM Transactions on Networking*, vol. 32, no. 2, pp. 1110–1123, 2024. [Impact Factor: 3.7]
- J.6 Xiao Chen, Guoliang Xue, **Ruozhou Yu**, Haiqin Wu, Dawei Wang, "A Vehicular Trust Blockchain Framework with Scalable Byzantine Consensus," *IEEE Transactions on Mobile Computing*, vol. 23, no. 5, pp. 4440–4452, 2024. [Impact Factor: 6.075]
- J.7 Jiangping Han, Kaiping Xue, Rui Zhuang, Jian Li, **Ruozhou Yu**, Ruidong Li, Guoliang Xue, Qibin Sun, "EdAR: An Experience-driven Multipath Scheduler for Seamless Handoff in Mobile Networks," *IEEE Transactions on Wireless Communications*, vol. 22, no. 10, pp. 6839–6852, 2023. [Impact Factor: 8.346]
- J.8 Lijun Sun, Guoliang Xue, **Ruozhou Yu**, "TAFS: A Truthful Auction for IoT Application Offloading in Fog Computing Networks," *IEEE Internet of Things Journal (IoT-J)*, vol. 10, no. 4, pp. 3252–3263, 2023. [Impact Factor: 9.936]
- J.9 Vishnu T. Kilari, **Ruozhou Yu**, Satyajayant Misra, Guoliang Xue, "Robust Revocable Anonymous Authentication for Vehicle to Grid Communications," *IEEE Transactions on Intelligent Transportation Systems (T-ITS)*, vol. 21, no. 11, pp. 4845–4857, 2020. [IF: 5.744]
- J.10 **Ruozhou Yu**, Guoliang Xue, Xiang Zhang, "Provisioning QoS-aware and Robust Applications in Internet-of-Things: A Network Perspective," *IEEE/ACM Transactions on Networking (ToN)*, vol. 27, no. 5, pp. 1931–1944, 2019. [IF: 3.579]
- J.11 **Ruozhou Yu**, Guoliang Xue, Mehdi Bennis, Xianfu Chen, Zhu Han, "HSDRAN: Hierarchical Software-Defined Radio Access Network for Distributed Optimization," *IEEE Transactions on Vehicular Technology (TVT)*, vol. 67, no. 9, pp. 8623–8636, 2018. [IF: 4.432]
- J.12 **Ruozhou Yu**, Guoliang Xue, Xiang Zhang, "QoS-aware and Reliable Traffic Steering for Service Function Chaining in Mobile Networks," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 35, no. 11, pp. 2522–2531, 2017. [IF: 7.172]
- J.13 **Ruozhou Yu**, Guoliang Xue, Xiang Zhang, "The Critical Network Flow Problem: Migratability and Survivability," *IEEE/ACM Transactions on Networking (ToN)*, vol. 25, no. 6, pp. 3545–3558, 2017. [IF: 3.11]

- J.14 Xiang Zhang, Guoliang Xue, **Ruozhou Yu**, Dejun Yang, Jian Tang, "Countermeasures Against False-Name Attacks on Truthful Incentive Mechanisms for Crowdsourcing," *IEEE Journal on Selected Areas in Communications (JSAC)*, vol. 35, no. 2, pp. 478–485, 2017. [IF: 7.172]
- J.15 Xiaoyan Huang, Guoliang Xue, **Ruozhou Yu**, Supeng Leng, "Joint Scheduling and Beamforming Coordination in Cloud Radio Access Networks with QoS Guarantees," *IEEE Transactions on Vehicular Technology (TVT)*, vol. 65, no. 7, pp. 5449–5460, 2016. [IF: 4.432]
- J.16 Dan Li, Congjie Chen, Junjie Guan, Ying Zhang, Jing Zhu, **Ruozhou Yu**, "DCloud: Deadline-aware Resource Allocation for Cloud Computing Jobs," *IEEE Transactions on Parallel and Distributed Systems (TPDS)*, vol. 27, no. 8, pp. 2248–2260, 2016. [IF: 3.971]
- J.17 Xiang Zhang, Guoliang Xue, **Ruozhou Yu**, Dejun Yang, Jian Tang, "Keep Your Promise: Mechanism Design Against Free-Riding and False-Reporting in Crowdsourcing," *IEEE Internet of Things Journal (IoT-J)*, vol. 2, no. 6, pp. 562–572, 2015. [IF: 5.863]
- J.18 Jun Huang, Yanbin Liu, **Ruozhou Yu**, Qiang Duan, Yoshiaki Tanaka, "Modeling and Algorithms for QoS-aware Service Composition in Virtualization-based Cloud Computing," *IEICE Transactions on Communications*, vol. 96, no. 1, pp. 10–19, 2013.

#### **Workshops & WIP (4 published, in reverse chronological order)**

- W.1 Kurt Wilson, Abdullah Al Arafat, John Baugh, **Ruozhou Yu**, Zhishan Guo, "Work-In-Progress: Physics-Aware Mixed-Criticality Systems Design via End-to-End Verification of CPS," in *International Symposium on Formal Methods and Models for System Design (MEMOCODE)*, Work-in-Progress Track, pp. 1–4, October 2024.
- W.2 Zhouyu Li\*, Huayue Gu\*, Xiaojian Wang\*, **Ruozhou Yu**, "Dynamic Queuing Analysis and Buffer Management for Entanglement Swapping Buffers with Noise," in *ACM 1st Workshop on Quantum Networks and Distributed Quantum Computing (QuNet)*, co-located with ACM SIGCOMM, 2023.
- W.3 **Ruozhou Yu**, Dejun Yang, Hao Zhang, "Edge-Assisted Collaborative Perception in Autonomous Driving: A Reflection on Communication Design," in *ACM/IEEE Symposium on Edge Computing (SEC) Workshops*, 2021.
- W.4 Dawei Wang, Xiao Chen, Haiqin Wu, **Ruozhou Yu**, Yishi Zhao, "A Blockchain-based Vehicle-trust Management Framework Under a Crowdsourcing Environment," in *IEEE 3rd International Workshop on Blockchain Systems and Applications (BlockchainSys)*, 2020.

#### **Magazines (4 published, in reverse chronological order)**

- M.1 **Ruozhou Yu**, Guoliang Xue, "Principles and Practices for Application-Network Co-Design in Edge Computing," *IEEE Network Magazine*, vol. 37, no. 5, pp. 137–144, 2023. [Impact Factor: 11.29]
- M.2 **Ruozhou Yu**, Rudra Dutta, Jianqing Liu, "On Topology Design for the Quantum Internet," *IEEE Network Magazine*, vol. 36, no. 5, pp. 64–70, 2023. [Impact Factor: 11.29]
- M.3 **Ruozhou Yu**, Guoliang Xue, Vishnu Teja Kilari, Xiang Zhang, "The Fog-of-Things Paradigm: Road towards On-demand Internet-of-Things," *IEEE Communications Magazine*, vol. 56, no. 9, pp. 48–54, 2018. [IF: 9.27]
- M.4 **Ruozhou Yu**, Guoliang Xue, Vishnu Teja Kilari, Xiang Zhang, "Network Function Virtualization in the Multi-tenant Cloud," *IEEE Network Magazine*, vol. 29, no. 3, pp. 42–47, 2015. [IF: 7.197]

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## PUBLIC TALKS

- 2024** "Infiltrating the Sky: Data Delay and Overflow Attacks in Earth Observation Constellations," presented at *IEEE ICNP 2024* conference, Charleroi, Belgium, October 2024.
- 2024** "VeriEdge: Verifying and Enforcing Service Level Agreements for Pervasive Edge Computing," presented at *IEEE INFOCOM 2024* conference, Vancouver, CA, May 2024.
- 2023** "ESDI: Entanglement Scheduling and Distribution in the Quantum Internet," presented at *IEEE ICCCN 2023* conference, Honolulu, HI, USA, July 2023.
- 2023** "INSPIRE: Instance-level Privacy-preserving Transformation for Vehicular Camera Videos," presented at *IEEE ICCCN 2023* conference, Honolulu, HI, USA, July 2023.
- 2023** "EA-Market: Empowering Real-Time Big Data Applications with Short-Term Edge SLA Leases," presented at *IEEE ICCCN 2023* conference, Honolulu, HI, USA, July 2023.
- 2022** "Disentangling and Entangling Networked Distributed Systems: Edge-Cloud, AI and Quantum," *IBM Back to School Seminar Series* (first in series since pandemic; more than 30 IBM attendees), virtual, November 2022.
- 2021** "Edge-Assisted Collaborative Perception in Autonomous Driving: A Reflection on Communication Design," presented at *ACM SEC 2021 EdgeComm* workshop, virtually, December 2021.
- 2021** "Data-Driven Edge Resource Provisioning for Inter-Dependent Microservices with Dynamic Load," presented at *IEEE GLOBECOM 2021* conference, held online, December 2021.
- 2020** "Robust Resource Provisioning in Time-Varying Edge Networks," presented at ACM Mobihoc 2020 conference, online due to COVID-19.
- 2019** "P4PCN: Privacy-Preserving Path Probing for Payment Channel Networks," presented at IEEE GLOBECOM 2019 conference, Waikoloa, HI, USA.
- 2019** "Modern Flow-based Networks for a Connected Cyber-Physical World," *Michigan State University*, East Lansing, MI, USA, March 2019.
- 2019** "Securing Internet-of-Things with Risk Optimization and the Blockchain," *University of Nebraska-Lincoln*, Lincoln, NE, USA, March 2019.
- 2019** "Modern Flow-based Networks for a Connected Cyber-Physical World," *North Carolina State University*, Raleigh, NC, USA, March 2019.
- 2019** "Data-oriented and Trustworthy IoT Services for a Cyber-Physical World," *University of Tennessee-Knoxville*, Knoxville, TN, USA, February 2019.
- 2019** "Data-oriented and Trustworthy IoT Services for a Cyber-Physical World," *Missouri University of Science and Technology*, Rolla, MO, USA, February 2019.
- 2019** "Data-oriented and Trustworthy IoT Services for a Cyber-Physical World," *University of Rhode Island*, South Kingstown, RI, USA, February 2019.
- 2019** "Modern Flow-based Networks for a Connected Cyber-Physical World," *Louisiana State University*, Baton Rouge, LA, USA, February 2019.
- 2019** "User vs. Provider for Secure and Trustworthy IoT: Two Sides of the Same Coin," *University of Georgia*, Athens, GA, USA, February 2019.
- 2019** "Data-oriented and Trustworthy IoT Services for a Cyber-Physical World," *Kansas State University*, Manhattan, KS, USA, January 2019.
- 2019** "Data-oriented and Trustworthy IoT Services for a Cyber-Physical World," *Montana State University*, Bozeman, MT, USA, January 2019.

- 2018** "Data-oriented and Trustworthy IoT Services for a Cyber-Physical World," *Oklahoma State University*, Stillwater, OK, USA, December 2018.
- 2018** "Data-oriented and Trustworthy IoT Services for a Cyber-Physical World," *University of Nebraska–Omaha*, Omaha, NE, USA, November 2018.
- 2018** "Can Blockchain Save IoT Security" at ASU West Campus, Phoenix, AZ, USA.
- 2018** "Application Provisioning in Fog Computing-enabled Internet-of-Things: A Network Perspective," presented at IEEE INFOCOM 2018 conference (Best-in-Session Presentation), Honolulu, HI, USA.
- 2017** "Survivable and Bandwidth-Guaranteed Embedding of Virtual Clusters in Cloud Data Centers," presented at IEEE INFOCOM 2017 conference, Atlanta, GA, USA.
- 2016** "Non-preemptive Coflow Scheduling and Routing," presented at IEEE GLOBECOM 2016 conference, Washington, D.C., USA.
- 2015** "Towards Min-Cost Virtual Infrastructure Embedding," presented at IEEE GLOBECOM 2015 conference, San Diego, CA, USA.
- 2015** "A Sybil-proof and Time-sensitive Incentive Tree Mechanism for Crowdsourcing," presented at IEEE GLOBECOM 2015 conference, San Diego, CA, USA.

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## HONORS AND AWARDS

- 2025** IEEE QCNC Distinguished TPC Member
- 2024** IEEE Transactions on Network Science and Engineering Excellent Editor Award
- 2024** IEEE INFOCOM Distinguished TPC Member
- 2023** IBM Workforce Development Initiative Award
- 2022** IEEE INFOCOM Distinguished TPC Member
- 2021** NSF CAREER Award
- 2021** IEEE Senior Member
- 2020** IEEE INFOCOM Distinguished TPC Member
- 2019** ASU CIDSE Doctoral Fellowship Award
- 2013–2019** ASU Graduate Research/Teaching Assistantship
- 2018** Exemplary Reviewer of IEEE Transactions on Wireless Communications (TWC)
- 2018** INFOCOM 2018 **Best-in-Session Presentation** Award
- 2018** ASU University Graduate Fellowship Award
- 2018** IEEE ComSoc Travel Grant for IEEE INFOCOM 2018
- 2018** ASU GPSA Graduate Student Individual Travel Grant
- 2017** NSF Travel Grant for IEEE INFOCOM 2017
- 2017** IEEE EDGE 2017 **Best Student Paper** Award
- 2016** NSF Travel Grant for IEEE GLOBECOM 2016
- 2016** ASU University Graduate Fellowship Award
- 2015** NSF Travel Grant for IEEE GLOBECOM 2015
- 2013–2014** ASU University Graduate Fellowship Award
- 2009–2012** BUPT Excellent Undergraduate Scholarships

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## RESEARCH GRANTS



- 2024** “Robustifying Predictive Intelligence for A New Spectrum Market,” NSF Award #2433966, 10/01/2024-09/30/2027, \$400,000 (sole PI).
- 2024** “Collaborative Research: NeTS: Small: Last Mile as a Free Market: Democratizing Wireless Access with On-demand Decentralized Contracts,” NSF Award #2414523, 10/01/2024-09/30/2027, \$305,746 (PI).
- 2024** “Collaborative Research: NeTS: Small: Models and Algorithms for Hybrid Continuous-Discrete Variable Quantum Networking,” NSF Award #2350152, 09/01/2024-08/31/2027, \$300,000 (lead PI).
- 2023** “Measure, Model, Optimize: Automating Optimized Microservice Provisioning in Cloud and Edge Computing,” IBM Workforce Development Initiative Award, 2023, \$5,000 (sole PI).
- 2021** “CAREER: WolfPack: An Application-Network Co-Design Framework for Performance-Guaranteed Real-time Applications at the Network Edge,” NSF Award #2045539, 07/01/2021-06/30/2026, \$521,722 (sole PI).
- 2020** “Collaborative Research: CNS Core: Small: Robust Resource Planning and Orchestration to Satisfy End-to-End SLA Requirements in Mobile Edge Networks,” NSF Award #2007391, 10/01/2020-09/30/2023, \$142,500 (PI).

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## TEACHING EXPERIENCES

### 2019–present Teaching @ NCSU

- CSC 591: *Quantum Communications and Network*, Spring 2025
- CSC 573: *Internet Protocols*, Fall 2024
- CSC 773: *Advanced Topics in Internet Protocols*, Spring 2024
- CSC 573: *Internet Protocols*, Fall 2023
- CSC 570: *Computer Networks*, Spring 2023
- CSC 573: *Internet Protocols*, Fall 2022
- CSC 570: *Computer Networks*, Fall 2021
- CSC 773: *Advanced Topics in Internet Protocols*, Spring 2021
- CSC 570: *Computer Networks*, Fall 2020
- CSC 401: *Data and Computer Communications Networks*, Spring 2020
- CSC 591: *Advanced Computer Networks for Distributed Computing Systems*, Fall 2019

### 2013–2017 Teaching Assistant @ ASU

- CSE 310: *Data Structures and Algorithms*, Recitation Instructor, Spring 2017
- CSE 556: *Game Theory with Applications*, Fall 2015
- CSE 180: *Computer Literacy*, Fall 2014
- CSE 430: *Operating Systems*, Spring 2014
- CSE 310: *Data Structures and Algorithms*, Fall 2013

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## PROFESSIONAL ACTIVITIES

**Editorial** Area Editor, Elsevier Computer Networks, 2023-present

Associate Editor, IEEE Transactions on Network Science and Engineering, 2024-present

Guest Editor, IEEE Open Journal of the Computer Society (Special Section on Emerging Techniques for Future Smart Cities after COVID-19), 2021

**Conference** Workshop Chair, IEEE INFOCOM 2024-2025

General Chair, IEEE IPCCC 2024  
Poster Chair, IEEE QCNC 2024  
TPC Chair, IEEE IPCCC 2023  
Web Chair, IEEE INFOCOM 2022-2023  
Track Chair, IEEE ICCCN 2023 Track 2  
Vice General Chair, IEEE IPCCC 2022  
Workshop Chair, IEEE IPCCC 2020-2021

**Workshop** TPC Chair, IEEE PerAI-6G Workshop 2022-2025

**TPC** IEEE INFOCOM 2020-2025, ACM Mobihoc 2023-2025, IEEE ICDCS 2025, IEEE Globecom 2024, IEEE DCOSS-IoT 2024, IEEE CNS 2022-2023, IEEE Globecom 2022, IEEE HiPC 2022, IEEE ICC 2022, EAI MONAMI 2021

**Session Chair** IEEE INFOCOM 2020-2024, IEEE ICCCN 2023, IEEE IPCCC 2022-2023

**Reviewer** IEEE/ACM ToN, IEEE TMC, IEEE JSAC, IEEE TNSE, IEEE TSE, IEEE TDSC, IEEE TIFS, IEEE TWC, IEEE TPDS, IEEE TCOM, IEEE TCC, IEEE IOT-J, IEEE TVT, IEEE TNSM, IEEE TSC, IEEE TGCN, IEEE TII, IEEE MNET, IEEE COMML, IEEE Networking Letters, IEEE Access, Wiley IJCS, Elsevier JNCA, Springer JONS, Hindawi SCN, MDPI Sensors, MDPI Applied Sciences, KSII TIIS, KICS JCN, IET Communications, IET Networks, ...

**Panelist** NSF Grant Proposal Panel 2021, 2023, 2024 (x3), 2025  
IEEE Senior Member Application Panel 2023

**Memberships** IEEE/ComSoc Student Member 2014–2019, Member 2019–2021, Senior Member 2021–present  
ACM Student Member 2019, Member 2019–present  
USENIX Sustainer Member 2020–2021

**Volunteer** ACM CCS 2014, IEEE INFOCOM 2019 TPC Meeting