

Yuanjie Li

✉ yuanjli@tsinghua.edu.cn

🌐 <http://www.yuanjli.com/>

Research Interests

Networked systems and security, with a recent focus on satellite networking, mobile networking and intelligent edge

Education

- 2012–2017 **Ph.D. in Computer Science** University of California, Los Angeles
Advisor: Songwu Lu
Dissertation: Augmenting Intelligence in Mobile Networked Systems
Committee: Songwu Lu, Lixia Zhang, Mario Gerla, Suhas Diggavi
Cisco Outstanding Graduate Student Research Award in UCLA, 2018
UCLA Dissertation Year Fellowship, 2016
- 2008–2012 **Bachelor of Engineering in Electronic Engineering** Tsinghua University
Best Student Research Training (SRT) Award, 2011 (Advisor: Dan Li)

Working Experiences

- 2024–Now **Tsinghua University** Associate Professor
• Research area: Satellite networking, mobile networking, network security
- 2020–2023 **Tsinghua University** Assistant Professor
• Research area: Satellite networking, mobile networking, network security
- 2018–2020 **Networking, IoT & Mobility Lab at Hewlett Packard (HP) Labs** Researcher
• Research area: Fast and secure mobile edge networking and computing
- 2017–2018 **MobiQ Technologies** Co-Founder and CEO
<http://www.mobiq-tech.com>
• MobiQ offers the 1st device-based, full-stack mobile network analytics and optimization software for various IoT vendors and virtual network operators
• MobiQ has been sponsored by the NSF SBIR Phase-I grant (2019/01–2019/06) and I-Corps program (2017/11-2018/09).
- Since 2014 **MobileInsight** Founder, project leader, and steering member
<http://www.mobileinsight.net>
• MobileInsight is the 1st open-source community tool that empowers fine-grained mobile network analytics inside your smartphones
• MobileInsight has been used by 300+ universities (Stanford, Berkeley, UIUC, Georgia Tech, etc.) and companies (Microsoft, Huawei, AT&T, etc.)
• Collaboration with UCLA, Purdue University, Peking University, and SJTU
- 2014/07–2014/09 **Google Inc.** Software engineering internship
• Youtube video optimization in LTE networks (Mentor: Andreas Terzis)
- 2013/07–2013/09 **Cisco Systems** Research internship
• Congestion control for information-centric networking (Mentor: Dave Oran)
- 2010–2012 **Tsinghua University** Undergraduate research assistant
• Data center networking and superconducting quantum computing

Honors and Awards

- USENIX NSDI Outstanding Paper Award, 2024
- 清华大学信息化技术中心、网络研究院先进工作者, 2023 年
- ACM China Rising Star, 2022
- ACM SIGCOMM China Rising Star, 2022
- ACM Senior Member, since 2022
- IEEE Senior Member, since 2022
- 清华大学信息化技术中心、网络研究院校级先进工作者, 2022 年
- 清华大学信息化技术中心、网络研究院院系级先进工作者, 2021 年
- NSF SBIR Phase I Award, 2019
- NSF I-Corps Award, 2018
- Cisco Outstanding Graduate Student Research Award in UCLA, 2018
- ACM MobiCom Best Community Paper Award, 2017
- ACM MobiCom Best Community Paper Award, 2016
- UCLA Dissertation Year Fellowship, UCLA, 2016
- 教育部国家优秀自费留学生奖学金, 2016 年
- Finalist Award for Qualcomm Innovation Fellowship (QINF), 2015
- The Best Student Research Training Award, Tsinghua University, 2011
- Qianheng Huang Scholarship, Tsinghua University, 2011
- Travel Grants: USENIX NSDI 2016, ACM HotWireless 2016

Media Report

- 中国大陆学者首次在全球顶级会议 SIGCOMM 举办学术专题讲座, 聚焦天地一体化: 人民网、中国教育网, August 2021
- *Bridging the Data Charging Gap in the Cellular Edge*, SIGCOMM'20: Research Highlight at ACM GetMobile, March 2020
- *The Tick Programmable Low-Latency SDR System*, MobiCom'17: Research Highlight at ACM GetMobile, March 2018
- *MobileInsight: Analyzing Cellular Network Information on Smartphones*, MobiCom'16: Research Highlight at ACM GetMobile, March 2017
- *Insecurity of Voice Solution VoLTE in LTE Mobile Networks*, CCS'15: TheVerge'15, RCSWirelessNews'15, Techxina'15, NewsUnited'15.

Selected Publications

(Note: Underlined are students I supervise, “†” marks the co-primary authors, and “*” marks the corresponding authors.)

1. [NSDI'24]: Lixin Liu, **Yuanjie Li***, Hewu Li*, Jiabo Yang, Wei Liu, Jingyi Lan, Yufeng Wang, Jiarui Li, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, “*Democratizing Direct-to-Cell Low Earth Orbit Satellite Networks*”
Outstanding Paper Award

2. **[MobiCom'24]: Yuanjie Li**, Lixin Liu, Hewu Li, Yimei Chen, Wei Zhao, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, *"Stable Hierarchical Routing for Operational LEO Networks"*
3. **[S&P'24]: Wei Liu, Yuanjie Li**, Hewu Li, Yimei Chen, Yufeng Wang, Jingyi Lan, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, *"The Dark Side of Scale: Insecurity of Direct-to-Cell Satellite Mega-Constellations"*
4. **[INFOCOM'24]:** Zeqi Lai, Yibo Wang, Hewu Li, Qian Wu, Qi Zhang, Yunan Hou, Jun Liu, **Yuanjie Li**, *"Your Mega-Constellations Can be Slim: A Cost-Effective Approach for Constructing Survivable and Performant LEO Satellite Networks"*
5. **[INFOCOM'24]:** Weisen Liu, Zeqi Lai, Qian Wu, Hewu Li, Qi Zhang, Zonglun Li, **Yuanjie Li**, Jun Liu, *"In-Orbit Processing or Not? Sunlight-Aware Task Scheduling for Energy-Efficient Space Edge Computing Networks"*
6. **[INFOCOM'24]:** Jihao Li, Hewu Li, Zeqi Lai, Qian Wu, Weisen Liu, Xiaomo Wang, **Yuanjie Li**, Jun Liu, Qi Zhang, *"SKYCASTLE: Taming LEO Mobility to Facilitate Seamless and Low-latency Satellite Internet Services"*
7. **[MobiCom'23]: Yuanjie Li**, Hewu Li, Wei Liu, Lixin Liu, Wei Zhao, Yimei Chen, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, Han Qiu, *"A Networking Perspective on Starlink's Self-Driving LEO Mega-Constellation"*
8. **[NSDI'23]:** Zeqi Lai, Hewu Li, Yangtao Deng, Qian Wu, Jun Liu, **Yuanjie Li**, Jihao Li, Lixin Liu, Weisen Liu, Jianping Wu, *"StarryNet: Empowering Researchers to Evaluate Futuristic Integrated Space and Terrestrial Networks"*
9. **[INFOCOM'23]:** Mingyang Lv, Qian Wu, Zeqi Lai, Hewu Li, **Yuanjie Li**, Jun Liu, *"FALCON: Towards Fast and Scalable Data Delivery for Emerging Earth Observation Constellations"*
10. **[INFOCOM'23]:** Zeqi Lai, Hewu Li, Yikun Wang, Qian Wu, Yangtao Deng, Jun Liu, **Yuanjie Li**, Jianping Wu, *"Achieving Resilient and Performance-Guaranteed Routing in Space-Terrestrial Integrated Networks"*
11. **[TMC'23]:** Zhaowei Tan, Jinghao Zhao, **Yuanjie Li**, Yifei Xu, Songwu Lu, *"LDRP: Device-Centric Latency Diagnostic and Reduction for Cellular Networks without Root"*
12. **[ICCV'23]:** Jianshuo Dong, Han Qiu, Yiming Li, Tianwei Zhang, **Yuanjie Li**, Zeqi Lai, Chao Zhang, Shu-Tao Xia, *"One-bit Flip is All You Need: When Bit-flip Attack Meets Model Training"*
13. **[SIGCOMM'22]: Yuanjie Li**, Hewu Li, Wei Liu, Lixin Liu, Yimei Chen, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, *"A Case for Stateless Mobile Core Network Functions in Space"*
14. **[ToN'22]:** Zhehui Zhang, **Yuanjie Li***, Qianru Li, Jinghao Zhao, Ghufuran Biag, Lili Qiu, Songwu Lu, *"Movement-Based Reliable Mobility Management for Beyond 5G Cellular Networks"*
15. **[CCS'21]: Yuanjie Li**, Hewu Li, Zhizheng Lv, Xingkun Yao, Qianru Li, Jianping Wu, *"Deterrence of Intelligent DDoS via Multi-Hop Traffic Divergence"*
16. **[MobiCom'21]: Yuanjie Li**, Chunyi Peng, Zhehui Zhang, Zhaowei Tan, Haotian Deng, Jinghao Zhao, Qianru Li, Yunqi Guo, Kai Ling, Boyan Ding, Hewu Li, Songwu Lu, *"Experience: A Five-Year Retrospective of MobileInsight"*
17. **[HotNets'21]: Yuanjie Li**, Hewu Li, Lixin Liu, Wei Liu, Jiayi Liu, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, *"Internet in Space" for Terrestrial Users via Cyber-Physical Convergence*
18. **[NSDI'21]:** Zhaowei Tan, Jinghao Zhao, **Yuanjie Li**, Yifei Xu, Songwu Lu, *"Device-Based LTE Latency Reduction at the Application Layer"*
19. **[SIGCOMM'20]: Yuanjie Li**, Qianru Li, Zhehui Zhang, Ghufuran Biag, Lili Qiu, Songwu Lu, *"Beyond 5G: Reliable Extreme Mobility Management"*
20. **[JSAC'20]:** Chenren Xu, Jing Wang, Zhiyao Ma, Yihua Chen, Yunzhe Ni, Wangyang Li, Feng Qian, **Yuanjie Li**, *"A First Look at Disconnection-centric TCP Performance on High-speed Railways"*
21. **[SIGCOMM'19]: Yuanjie Li**, Kyu-Han Kim, Christina Vlachou, Junqing Xie, *"Bridging the Data Charging Gap in the Cellular Edge"*
22. **[MobiCom'19]:** Jing Wang, Yufan Zheng, Yunzhe Ni, Chenren Xu, Feng Qian, Wangyang Li, Wantong Jiang, Yihua Cheng, Zhuo Cheng, **Yuanjie Li**, Xiufeng Xie, Yi Sun, Zhongfeng Wang, *"An Active-Passive Measurement Study of TCP Performance over LTE on High-speed Rails"*

23. **[ToN'18]: Yuanjie Li**, Chunyi Peng, Haotian Deng, Zengwen Yuan, Guan-Hua Tu, Jiayao Li, Songwu Lu, Xi Li, “*Device-Customized Multi-Carrier Network Access on Commodity Smartphones*”
24. **[SIGMETRICS'18]:** Zhaowei Tan, **Yuanjie Li**, Qianru Li, Zhehui Zhang, Songwu Lu, “*Supporting Mobile VR in LTE Networks: How Close Are We?*”
25. **[MobiCom'18]:** Zengwen Yuan, Qianru Li, **Yuanjie Li**, Chunyi Peng, Songwu Lu, George Varghese, “*Resolving Policy Conflicts in Multi-carrier Access*”
26. **[MobiCom'17]: Yuanjie Li**, Zengwen Yuan, Chunyi Peng, “*A Control-Plane Perspective on Reducing Data Access Latency in LTE Networks*”
27. **[MobiCom'17]:** Haoyang Wu, Tao Wang, Zengwen Yuan, Chunyi Peng, Zhiwei Li, Zhaowei Tan, Boyan Ding, Xiaoguang Li, **Yuanjie Li**, Jun Liu, Songwu Lu, “*The Tick Programmable Low-Latency SDR System*”
Best Community Paper Award
28. **[MobiCom'16]: Yuanjie Li**, Chunyi Peng, Zengwen Yuan, Jiayao Li, Haotian Deng, Tao Wang, “*MobileInsight: Extracting and Analyzing Cellular Network Information on Smartphones*”
Best Community Paper Award
29. **[NSDI'16]: Yuanjie Li**, Haotian Deng, Chunyi Peng, Guan-Hua Tu, Jiayao Li, Zengwen Yuan, Songwu Lu, “*iCellular: Device-Customized Cellular Network Access on Commodity Smartphones*”
30. **[SIGMETRICS'16]: Yuanjie Li**, Haotian Deng, Jiayao Li, Chunyi Peng, Songwu Lu, “*Instability in Distributed Mobility Management: Revisiting Configuration Management in 3G/4G Mobile Networks*”
31. **[ToN'16]:** Guan-Hua Tu†, **Yuanjie Li**†, Chunyi Peng, Chi-Yu Li, Hongyi Wang, Songwu Lu, “*Detecting Problematic Control-Plane Protocol Interactions in Mobile Networks*”
32. **[INFOCOM'16]:** Chunyi Peng, **Yuanjie Li**, Zhuoran Li, Jie Zhao, Jiaqi Xu, “*Understanding and Diagnosing Real-World Femtocell Performance Problems*”,
33. **[CCS'16]:** Guan-Hua Tu, Chi-Yu Li, Chunyi Peng, **Yuanjie Li**, Songwu Lu, “*New Security Threats Caused by IMS-based SMS Service in 4G LTE Networks*”
34. **[CCS'15]:** Chi-Yu Li, Guan-Hua Tu, Chunyi Peng, Zengwen Yuan, **Yuanjie Li**, Songwu Lu, Xinbing Wang, “*Insecurity of Voice Solution VoLTE in LTE Mobile Networks*”
35. **[SIGCOMM'14]:** Guan-Hua Tu†, **Yuanjie Li**†, Chunyi Peng, Chi-Yu Li, Hongyi Wang, Songwu Lu, “*Control-Plane Protocol Interactions in Cellular Networks*”
36. **[ToN'13]:** Dan Li, **Yuanjie Li**, Jianping Wu, Sen Su, Jiangwei Yu, “*ESM: Efficient and Scalable Data Center Multicast Routing*”

Full Publication List

1. Lixin Liu, **Yuanjie Li***, Hewu Li*, Jiabo Yang, Wei Liu, Jingyi Lan, Yufeng Wang, Jiarui Li, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, “*Democratizing Direct-to-Cell Low Earth Orbit Satellite Networks*”, **USENIX NSDI, 2024**
Outstanding Paper Award
2. **Yuanjie Li**, Lixin Liu, Hewu Li, Yimei Chen, Wei Zhao, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, “*Stable Hierarchical Routing for Operational LEO Networks*”, **ACM MobiCom 2024**
3. Wei Liu, **Yuanjie Li**, Hewu Li, Yimei Chen, Yufeng Wang, Jingyi Lan, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, “*The Dark Side of Scale: Insecurity of Direct-to-Cell Satellite Mega-Constellations*”, **IEEE S&P, 2024**
4. Lixin Liu, Wei Liu, **Yuanjie Li***, Hewu Li, “*Enabling 6G and Beyond Network Functions from Space: Challenges and Opportunities*”, **IEEE Internet Computing, 2024**
5. Zeqi Lai, Yibo Wang, Hewu Li, Qian Wu, Qi Zhang, Yunan Hou, Jun Liu, **Yuanjie Li**, “*Your Mega-Constellations Can be Slim: A Cost-Effective Approach for Constructing Survivable and Performant LEO Satellite Networks*”, **IEEE INFOCOM 2024**

6. Weisen Liu, Zeqi Lai, Qian Wu, Hewu Li, Qi Zhang, Zonglun Li, **Yuanjie Li**, Jun Liu, “*In-Orbit Processing or Not? Sunlight-Aware Task Scheduling for Energy-Efficient Space Edge Computing Networks*”, **IEEE INFOCOM 2024**
7. Jihao Li, Hewu Li, Zeqi Lai, Qian Wu, Weisen Liu, Xiaomo Wang, **Yuanjie Li**, Jun Liu, Qi Zhang, “*SKYCASTLE: Taming LEO Mobility to Facilitate Seamless and Low-latency Satellite Internet Services*”, **IEEE INFOCOM 2024**
8. Jihao Li, Hewu Li, Zeqi Lai, Qian Wu, Yijie Liu, Qi Zhang, Jun Liu, **Yuanjie Li**, “*SatGuard: Concealing Endless and Bursty Packet Losses in LEO Satellite Networks for Delay-Sensitive Web Applications*”, **ACM WWW 2024**
9. Erzhu Ding, Hewu Li, Jun Liu, Jihao Li, Qian Wu, **Yuanjie Li**, Zeqi Lai, “*Research on Edge Server Deployment Strategy in LEO Mega-Constellation*”, **IEEE WCNC 2024**
10. Wei Zhao, **Yuanjie Li**, Hewu Li, Yimei Chen, “*A First Look at Networking-Aware LEO Maneuvers*”, **ACM Workshop on LEO Networking and Communication (LEO-NET), 2023**
11. **Yuanjie Li**, Hewu Li, Wei Liu, Lixin Liu, Wei Zhao, Yimei Chen, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, Han Qiu, “*A Networking Perspective on Starlink’s Self-Driving LEO Mega-Constellation*”, **ACM MobiCom 2023**
12. Zeqi Lai, Hewu Li, Yangtao Deng, Qian Wu, Jun Liu, **Yuanjie Li**, Jihao Li, Lixin Liu, Weisen Liu, Jianping Wu, “*StarryNet: Empowering Researchers to Evaluate Futuristic Integrated Space and Terrestrial Networks*”, **USENIX NSDI 2023**
13. Zhaowei Tan, Jinghao Zhao, **Yuanjie Li**, Yifei Xu, Songwu Lu, “*LDRP: Device-Centric Latency Diagnostic and Reduction for Cellular Networks without Root*”, **IEEE Transactions on Mobile Computing, 2023**
14. Mingyang Lv, Qian Wu, Zeqi Lai, Hewu Li, **Yuanjie Li**, Jun Liu, “*FALCON: Towards Fast and Scalable Data Delivery for Emerging Earth Observation Constellations*”, **IEEE INFOCOM 2023**
15. Zeqi Lai, Hewu Li, Yikun Wang, Qian Wu, Yangtao Deng, Jun Liu, **Yuanjie Li**, Jianping Wu, “*Achieving Resilient and Performance-Guaranteed Routing in Space-Terrestrial Integrated Networks*”, **IEEE INFOCOM 2023**
16. Jianshuo Dong, Han Qiu, Yiming Li, Tianwei Zhang, **Yuanjie Li**, Zeqi Lai, Chao Zhang, Shu-Tao Xia, “*One-bit Flip is All You Need: When Bit-flip Attack Meets Model Training*”, **IEEE ICCV 2023**
17. Yaoying Zhang, Qian Wu, Zeqi Lai, Yangtao Deng, Hewu Li, **Yuanjie Li**, Jun Liu, “*Energy Drain Attack in Satellite Internet Constellations*”, **IEEE/ACM IWQoS 2023**
18. Tianyu Zhang, Hewu Li, Jun Liu, Lu Lu, Qian Wu, Shaowen Zheng, Zeqi Lai, **Yuanjie Li**, “*High-risk LEO satellite network path detection based on spatial and temporal delay anomaly analysis*”, **China Communications, 2023**
19. Moinak Ghoshal, Z. Jonny Kong, Qiang Xu, Zixiao Lu, Shivang Aggarwal, Imran Khan, Jiayi Meng, **Yuanjie Li**, Y. Charlie Hu, Dimitrios Koutsonikolas, “*Can 5G mmWave Enable Edge-Assisted Real-Time Object Detection for Augmented Reality?*”, **IEEE MASCOTS 2023**
20. **Yuanjie Li**, Hewu Li, Wei Liu, Lixin Liu, Yimei Chen, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, “*A Case for Stateless Mobile Core Network Functions in Space*”, **ACM SIGCOMM 2022**
21. Zhehui Zhang, **Yuanjie Li***, Qianru Li, Jinghao Zhao, Ghufuran Baig, Lili Qiu, Songwu Lu, “*Movement-Based Reliable Mobility Management for Beyond 5G Cellular Networks*”, **IEEE/ACM Transactions on Networking, 2022**
22. Ghufuran Baig, Changhan Ge, Lili Qiu, **Yuanjie Li**, Wangyang Li, Jian He, Zhehui Zhang, Songwu Lu, “*Extracting and Predicting Multipath Profiles under High Mobility and Its Application*”, **ACM MobiHoc 2022**
23. Lixin Liu, Hewu Li, **Yuanjie Li***, Zeqi Lai, Yangtao Deng, Yimei Chen, Wei Liu, Qian Wu, “*Geographic Low-Earth-Orbit Networking without QoS Bottlenecks from Infrastructure Mobility*”, **IEEE/ACM IWQoS 2022**
24. Moinak Ghoshal, Z. Jonny Kong, Qiang Xu, Zixiao Lu, Shivang Aggarwal, Imran Khan, **Yuanjie Li**, Y. Charlie Hu, Dimitrios Koutsoniklas, “*An In-Depth Study of Uplink Performance of 5G mmWave Networks*”, **SIGCOMM 5G-MeMU 2022**
25. Zeqi Lai, Hewu Li, Qian Wu, Qiang Ni, Mingyang Lv, Jihao Li, Jianping Wu, Jun Liu, **Yuanjie Li**, “*Integrating Space Edge Computing with Terrestrial Networks for Futuristic 6G Pervasive On-Demand Services*”, **IEEE Vehicular Technology Magazine, 2022**

26. Tianzhu Zhang, Han Qiu, Marco Mellia, **Yuanjie Li**, Hewu Li, Ke Xu, “*Interpreting AI for Networking: Where We Are and Where We Are Going*”, **IEEE Communications Magazine**, 60(2), pp.25-31, 2022
27. Moinak Ghoshal, Pranab Dash, Zhaoning Kong, Qiang Xu, Y. Charlie Hu, Dimitrios Koutsonikolas, **Yuanjie Li**, “*Can 5G mmWave Support Multi-User AR?*”, **PAM 2022**
28. Weisen Liu, Qian Wu, Zeqi Lai, Hewu Li, **Yuanjie Li**, Jun Liu, “*Enabling Ubiquitous and Efficient Data Delivery by LEO Satellites and Ground Station Networks*”, **IEEE GLOBECOM 2022**
29. Tianyu Zhang, Hewu Li, Jun Liu, Qian Wu, **Yuanjie Li**, Yaoying Zhang, “*SASA: Source Address Spoofing Avoidance Mechanism under High Movement for Mega-Constellation*”, **IEEE ICC 2022**
30. Zitong Lin, Hewu Li, **Yuanjie Li**, Jun Liu, Lixin Liu, Qi Zhang, Qian Wu, Zeqi Lai, “*Systematic Utilization Analysis of Mega-Constellation Networks*”, **IWCMC-SCN 2022**
31. **Yuanjie Li**, Hewu Li, Lixin Liu, Wei Liu, Jiayi Liu, Jianping Wu, Qian Wu, Jun Liu, Zeqi Lai, “*Internet in Space” for Terrestrial Users via Cyber-Physical Convergence*, **ACM HotNets 2021**
32. **Yuanjie Li**, Hewu Li, Zhizheng Lv, Xingkun Yao, Qianru Li, Jianping Wu, “*Deterrence of Intelligent DDoS via Multi-Hop Traffic Divergence*”, **ACM CCS 2021**
33. **Yuanjie Li**, Chunyi Peng, Zhehui Zhang, Zhaowei Tan, Haotian Deng, Jinghao Zhao, Qianru Li, Yunqi Guo, Kai Ling, Boyan Ding, Hewu Li, Songwu Lu, “*Experience: A Five-Year Retrospective of MobileInsight*”, **ACM MobiCom 2021**
34. Zhaowei Tan, Jinghao Zhao, **Yuanjie Li**, Yifei Xu, Songwu Lu, “*Device-Based LTE Latency Reduction at the Application Layer*”, **USENIX NSDI 2021**
35. **Yuanjie Li**, Esha Datta, Jiaxin Ding, Ness Shroff, Xin Liu, “*Can Online Learning Make Extreme Mobility More Reliable?*”, **IEEE/ACM IWQoS 2021**
36. **Yuanjie Li**, Qianru Li, Zhehui Zhang, Ghufuran Baig, Lili Qiu, Songwu Lu, “*Beyond 5G: Reliable Extreme Mobility Management*”, **ACM SIGCOMM'20**, (Acceptance rate: 54/250 = 22%)
37. **Yuanjie Li**, Kyu-Han Kim, Christina Vlachou, Junqing Xie, “*Bridging the Data Charging Gap in the Cellular Edge*”, **ACM GetMobile 2020 (Research Highlight)**
38. Chenren Xu, Jing Wang, Zhiyao Ma, Yihua Chen, Yunzhe Ni, Wangyang Li, Feng Qian, **Yuanjie Li**, “*A First Look at Disconnection-centric TCP Performance on High-speed Railways*”, **JSAC 2020**
39. **Yuanjie Li**, Kyu-Han Kim, Christina Vlachou, Junqing Xie, “*Bridging the Data Charging Gap in the Cellular Edge*”, **ACM SIGCOMM'19**, (Acceptance rate: 32/221 = 14%)
40. Jing Wang, Yufan Zheng, Yunzhe Ni, Chenren Xu, Feng Qian, Wangyang Li, Wantong Jiang, Yihua Cheng, Zhuo Cheng, **Yuanjie Li**, Xiufeng Xie, Yi Sun, Zhongfeng Wang, “*An Active-Passive Measurement Study of TCP Performance over LTE on High-speed Rails*”, **ACM MobiCom'19** (Acceptance rate: 55/290 = 18%)
41. **Yuanjie Li**, Chunyi Peng, Haotian Deng, Zengwen Yuan, Guan-Hua Tu, Jiayao Li, Songwu Lu, Xi Li, “*Device-Customized Multi-Carrier Network Access on Commodity Smartphones*”, to appear at **IEEE/ACM Transactions on Networking (ToN)**, 2018
42. Zhaowei Tan, **Yuanjie Li**, Qianru Li, Zhehui Zhang, Songwu Lu, “*Supporting Mobile VR in LTE Networks: How Close Are We?*”, **ACM SIGMETRICS'18** (Acceptance rate: 54/270 = 20%)
43. Zengwen Yuan, Qianru Li, **Yuanjie Li**, Chunyi Peng, Songwu Lu, George Varghese, “*Resolving Policy Conflicts in Multi-carrier Access*”, **ACM MobiCom'18** (Acceptance rate: 42/187 = 22%)
44. Zengwen Yuan, **Yuanjie Li**, Chunyi Peng, Songwu Lu, Haotian Deng, Zhaowei Tan, Taqi Raza, “*A Machine Learning Based Approach to Mobile Network Analysis*”, **IEEE ICCCN'18** (Invited paper)
45. Haoyang Wu, Tao Wang, Zengwen Yuan, Chunyi Peng, Zhiwei Li, Zhaowei Tan, Boyan Ding, Xiaoguang Li, **Yuanjie Li**, Jun Liu, Songwu Lu, “*The Tick Programmable Low-Latency SDR System*”, **ACM GetMobile 2018**
46. **Yuanjie Li**, Zengwen Yuan, Chunyi Peng, “*A Control-Plane Perspective on Reducing Data Access Latency in LTE Networks*”, **ACM MobiCom 2017** (Acceptance rate: 35/186 = 18%)

47. Haoyang Wu, Tao Wang, Zengwen Yuan, Chunyi Peng, Zhiwei Li, Zhaowei Tan, Boyan Ding, Xiaoguang Li, **Yuanjie Li**, Jun Liu, Songwu Lu, “*The Tick Programmable Low-Latency SDR System*”, **ACM MobiCom 2017** (Acceptance rate: 35/186 = 18.8%) **Best Community Paper Award**
48. **Yuanjie Li**, Chunyi Peng, Zengwen Yuan, Jiayao Li, Haotian Deng, Tao Wang, “*MobileInsight: Analyzing Cellular Network Information on Smartphones*”, **ACM GetMobile 2017**, Volume 21 Issue 1, March 2017
49. Haotian Deng, Qianru Li, **Yuanjie Li**, Songwu Lu, Chunyi Peng, Taqi Raza, Zhaowei Tan, Zengwen Yuan, Zhehui Zhang, “*Towards automated intelligence in 5G systems*”, **IEEE ICCCN 2017** (Invited paper, authors in alphabetical order)
50. Wenguang Huang, Chang Zhou, **Yuanjie Li**, Songwu Lu, Luoyi Fu, “*cniCloud: Querying the Cellular Network Information at Scale*”, **ACM WinTECH 2017**
51. **Yuanjie Li**, Chunyi Peng, Zengwen Yuan, Jiayao Li, Haotian Deng, Tao Wang, “*MobileInsight: Extracting and Analyzing Cellular Network Information on Smartphones*”, **ACM MobiCom 2016** (Acceptance rate: 31/247 = 12%) **Best Community Paper Award**
52. **Yuanjie Li**, Haotian Deng, Chunyi Peng, Guan-Hua Tu, Jiayao Li, Zengwen Yuan, Songwu Lu, “*iCellular: Device-Customized Cellular Network Access on Commodity Smartphones*”, **USENIX NSDI 2016** (Acceptance rate: 45/228 = 19%)
53. **Yuanjie Li**, Haotian Deng, Jiayao Li, Chunyi Peng, Songwu Lu, “*Instability in Distributed Mobility Management: Revisiting Configuration Management in 3G/4G Mobile Networks*”, **ACM SIGMETRICS 2016** (Acceptance rate: 28/208 = 13%)
54. **Yuanjie Li**, Zengwen Yuan, Chunyi Peng, Songwu Lu, “*CAP on Mobility Control for 4G LTE Networks*”, **ACM HotWireless'16** (Invited paper)
55. **Yuanjie Li**, Jiaqi Xu, Chunyi Peng, Songwu Lu, “*A First Look at Unstable Mobility Management in Cellular Networks*”, **ACM HotMobile'16** (Acceptance rate: 18/55 = 32%)
56. Chunyi Peng, **Yuanjie Li**, Zhuoran Li, Jie Zhao, Jiaqi Xu, “*Understanding and Diagnosing Real-World Femtocell Performance Problems*”, **IEEE INFOCOM 2016** (Acceptance rate: 300/1644 = 18%)
57. Guan-Hua Tu†, **Yuanjie Li**†, Chunyi Peng, Chi-Yu Li, Hongyi Wang, Songwu Lu, “*Detecting Problematic Control-Plane Protocol Interactions in Mobile Networks*”, **IEEE/ACM Transactions on Networking (ToN)**, 2016
58. Guan-Hua Tu, Chi-Yu Li, Chunyi Peng, Zengwen Yuan, **Yuanjie Li**, Songwu Lu, “*VoLTE*: A Lightweight Voice Solution to 4G LTE Networks*”, **ACM HotMobile'16** (Acceptance rate: 18/55 = 32%)
59. Guan-Hua Tu, Chi-Yu Li, Chunyi Peng, **Yuanjie Li**, Songwu Lu, “*New Security Threats Caused by IMS-based SMS Service in 4G LTE Networks*”, **ACM CCS 2016** (Acceptance rate: 137/837=16%)
60. Chunyi Peng, **Yuanjie Li**, “*Demystify Undesired Handoff in Cellular Networks*”, **IEEE ICCCN 2016** (Acceptance rate: 88/352 = 25%)
61. Chi-Yu Li, Guan-Hua Tu, Chunyi Peng, Zengwen Yuan, **Yuanjie Li**, Songwu Lu, Xinbing Wang, “*Insecurity of Voice Solution VoLTE in LTE Mobile Networks*”, **ACM CCS 2015** (Acceptance rate: 128/646 = 19%)
62. Guan-Hua Tu†, **Yuanjie Li**†, Chunyi Peng, Chi-Yu Li, Hongyi Wang, Songwu Lu, “*Control-Plane Protocol Interactions in Cellular Networks*”, **ACM SIGCOMM 2014** (Acceptance rate: 45/237 = 18%)
63. Yu-Ting Yu, **Yuanjie Li**, Xingyu Ma, Wentao Shang, MY Sanadidi, Mario Gerla, “*Scalable Opportunistic VANET Content Routing With Encounter Information*”, **IEEE VCA'13**
64. Dan Li, **Yuanjie Li**, Jianping Wu, Sen Su, Jiangwei Yu, “*ESM: Efficient and Scalable Data Center Multicast Routing*”, **IEEE/ACM Transactions on Networking**, 2013
65. Xun-Wei Xu, **Yuanjie Li**, Yu-xi Liu, “*Photon Induced Tunneling in Optomechanical Systems*”, **Physical Review A**, 2013
66. Xun-Wei Xu, **Yuanjie Li**, “*Antibunching Photons in a Cavity Coupled to an Optomechanical System*”, **Journal of Physics B**, 2013

Patents

1. **Yuanjie Li**, Hewu Li, Jiayi Liu, Wei Liu, Lixin Liu, Qian Wu, Jun Liu, Zeqi Lai, “*Method and Device for Constructing Integrated Space-Terrestrial Network*”, US Patent US20240106528A1
2. **Yuanjie Li**, Kyu-Han Kim, Qianru Li, “*Systems and Methods for Mitigating Cyberattacks*”, US Patent US20220272120A1
3. **Yuanjie Li**, Kyu-Han Kim, “*Learning-Driven Low Latency Handover for 5G Mobility*”, US Patent US20210329522A1
4. Kyu-Han Kim, **Yuanjie Li**, “*Data Gap Bridging Methods and Systems*”, US Patent US10893151B1
5. **Yuanjie Li**, Chunyi Peng, Songwu Lu, “*Methods, systems, apparatuses, and devices for facilitating managing connections from one or more caller devices*”, US Patent US20210014353A1
6. **Yuanjie Li**, Zengwen Yuan, Jinghao Zhao, Songwu Lu, “*Methods, systems, apparatuses and devices for facilitating optimizing of a network connection established between the device and one or more servers*”, US Patent US20210112509A1
7. **Yuanjie Li**, Zhaowei Tan, Kaiyuan Chen, Jinghao Zhao, Songwu Lu, “*Optimizing the Wireless-powered Outdoor Target Advertising*”, US Patent App. 62/937,037
8. 李元杰, 刘李鑫, 李贺武, 刘威, 蓝静怡, 汪宇峰, 吴茜, 刘君, 赖泽祺, 《直连蜂窝卫星网络的自助服务方法及装置》, 专利申请号: 202410144397.5
9. 李元杰, 李贺武, 陈怡梅, 刘威, 吴茜, 刘君, 赖泽祺, 《一种针对伪卫星的多设备协同检测与防御方法》, 专利申请号: 202310912592.3
10. 李元杰, 李贺武, 刘威, 刘李鑫, 陈怡梅, 吴茜, 刘君, 赖泽祺, 《网元状态管理方法、装置、电子设备及存储介质》, 国际专利申请号: PCT/CN2023/111726
11. 李元杰, 李贺武, 赵玮, 陈怡梅, 刘威, 刘李鑫, 吴茜, 刘君, 赖泽祺, 《卫星自动变轨检测方法、装置、电子设备及存储介质》, 专利申请号: 202310839887.2
12. 李元杰, 李贺武, 赵玮, 陈怡梅, 吴茜, 刘君, 赖泽祺, 《一种面向网络稳定性的卫星变轨方法和装置》, 专利申请号: 202311247368.3
13. 李元杰, 刘李鑫, 李贺武, 刘威, 陈怡梅, 吴茜, 刘君, 赖泽祺, 陆璐, 郑韶雯, 《星地融合互联网的稳定层次化路由方法、装置及电子设备》, 专利申请号: 202310675671.7
14. 李元杰, 李贺武, 刘李鑫, 刘威, 刘嘉懿, 吴茜, 刘君, 赖泽祺, 《一种星地协同组网方法及装置》, 专利授权公告号: CN114039644A
15. 李元杰, 李贺武, 吕治政, 赵玮, 吴茜, 刘君, 赖泽祺, 《天地融合网络恶意流量攻击主动抑制方法及装置》, 专利授权公告号: CN114785551B
16. 李元杰, 李贺武, 刘威, 刘李鑫, 陈怡梅, 吴茜, 刘君, 赖泽祺, 《一种天地融合移动网络的网元功能状态管理机制》, 专利申请号: 202211430022.2
17. 李贺武, 李基豪, 赖泽祺, 吴茜, 李元杰, 刘君, 《低轨巨型星座网络的面向流级别的数据传输方法及装置》, 专利申请号: CN117579121A
18. 李贺武, 李基豪, 赖泽祺, 吴茜, 李元杰, 刘君, 《低轨巨型星座网络的流量传输方法、装置及电子设备》, 专利申请号: CN117579120A
19. 李贺武, 李基豪, 赖泽祺, 吴茜, 王翊堃, 李元杰, 刘君, 《面向低轨巨型星座网络的传输方法和装置》, 专利申请号: CN117650825A
20. 吴茜, 宋兆杰, 李贺武, 李元杰, 《用于高铁场景的多路径传输数据预调度方法及系统》, 专利授权公告号: CN113329413B
21. 赖泽祺, 李贺武, 吴茜, 邓洋涛, 刘伟森, 刘君, 李元杰, 李基豪, 刘李鑫, 吴建平, 《一种天地融合网络仿真试验系统及其试验方法》, 专利申请号: CN114785401A
22. 赖泽祺, 刘伟森, 吴茜, 李贺武, 吴建平, 刘君, 李元杰, 《一种星地协作的广域实时通信系统及其通信方法》, 专利申请号: CN114915331A

23. 吴茜, 刘伟森, 赖泽祺, 李贺武, 李元杰, 刘君, 《一种星地协同的全球内容分发路由方法、系统及电子设备》, 专利申请号: CN114928869A
24. 吴茜, 张瑶莹, 赖泽祺, 李贺武, 刘君, 李元杰, 陆璐, 郑韶雯, 《星地链路处理方法、装置及网络设备》, 专利申请号: CN114710193A

Books and Chapters

1. 赵宝康, 李贺武, 赖泽祺, 李元杰, 毕远国, 许昱玮, 《卫星互联网的研究进展与趋势》, CCF 2020-2021 中国计算机科学技术发展报告, 中国计算机协会编, 北京: 机械工业出版社, ISBN 978-7-111-69379-6, 2021.10

IETF Drafts

1. **Yuanjie Li**, Hewu Li, Jiayi Liu, Lixin Liu, Qian Wu, “*Problems and Requirements of Addressing in Integrated Space-Terrestrial Network*”, 2022.04 <https://datatracker.ietf.org/doc/draft-li-istn-addressing-requirement/>

Invited Talks

1. *A Networking Perspective on Starlink’s Self-Driving LEO Mega-Constellation*, ACM MobiCom 2023
2. *A First Look at Networking-Aware Maneuver*, ACM LEO-NET 2023
3. 天地融合互联网体系结构与安全的思考, CCF 中国网络大会, 2023
4. *Problems and Requirements of Addressing in Integrated Space-Terrestrial Network*, IETF 116 side meeting on satellite networking, 2023
5. *A Case for Stateless Mobile Core Network Functions in Space*, ACM TURC, ACM SIGCOMM, Microsoft Research – Redmond, Huawei, Peking University, BUPT, 2022–2023
6. *Smart and Secure Mobile Network by Clients*, ACM TURC, SIGMOBILE CEP, China Mobile, UCSB, Tsinghua University, Fudan University, 2021–2023
7. 天地一体化互联网的网络功能架构挑战与研究进展, 清华大学-中国移动联合研究院 Star Light 系列学术沙龙 (第二期), 2022
8. *Integrated Satellite-Terrestrial Network (ISTN)*, ACM SIGCOMM 2021 Tutorial: <https://conferences.sigcomm.org/sigcomm/2021/ISTN-tutorial.html>
9. *Deterrence of Intelligent DDoS via Multi-Hop Traffic Divergence*, ACM CCS’21, Tsinghua University
10. “*Internet in Space*” for Terrestrial Users via Cyber-Physical Convergence, ACM HotNets’21, CCF 第十届中国互联网学术年会 (2021)
11. *Can Online Learning Increase the Reliability of Extreme Mobility Management?* IEEE/ACM IWQoS 2021
12. *Beyond 5G: Reliable Extreme Mobility Management*, ACM SIGCOMM’20
13. *Bridging the Data Charging Gap in the Cellular Edge*, ACM SIGCOMM’19, Shanghai Jiaotong University, Chinese Academy of Sciences, BUPT, 2019
14. *Data-Driven End Intelligence in the Mobile Networked Systems*, ACM MobiHoc Workshop on Mobile IoT Sensing/Security/Privacy, UCSB, HP Labs, 2018

15. *Securing the Mobile Networked Systems: A Control/Data-Plane Perspective*, Stevens Institute of Technology, 2018
16. *Symbiotic Apps-Wireless Architecture via Named Data*, Intel-NSF Information-Centric Networking in Wireless Edge Networks Kickoff, 2017
17. *Augmenting Intelligence in Mobile Networked System*, USC, Rutgers University, University of Oregon, 2017
18. *A Control-Plane Perspective on Reducing Data Access Latency in Mobile Networks*, ACM MobiCom 2017
19. *cniCloud: Querying the Cellular Network Information at Scale*, ACM WinTECH 2017
20. *MobileInsight: Extracting and Analyzing Cellular Network Information on Smartphones*, ACM MobiCom 2016
21. *CAP on Mobility Control for Mobile Networks*, ACM HotWireless 2016
22. *iCellular: Device-Customized Cellular Network Access on Commodity Smartphones*, USENIX NSDI 2016
23. *The Dark Side of VoLTE: Security Vulnerabilities and Solutions*, Qualcomm Innovation Fellowship Finals, 2015
24. *Control-Plane Protocol Interactions in Cellular Networks*, ACM SIGCOMM 2014

Professional Services

- **Program committee member:**
 - 2025: USENIX NSDI
 - 2024: ACM SIGCOMM, USENIX NSDI, IEEE INFOCOM, ACM CoNEXT, IEEE ICCCN, IFIP Networking
 - 2023: ACM CoNEXT, IEEE ICNP, ACM WinTECH, ACM SIGCOMM workshop on 5G-MeMU, ACM LEO-NET, 6G SQSC
 - 2022: ACM MobiCom, IEEE ICNP, ACM ICN, ACM SIGCOMM workshop on 5G-MeMU, ACM WinTECH, AAAI, APNet, EAI 6G-xCOM
 - 2021: ACM MobiCom, IEEE ICNP, ACM SIGCOMM workshop on 5G-MeMU, IEEE MSN, AAAI
 - 2020: ACM MobiCom, IEEE INFOCOM (external)
 - 2018: ACM Ubicomp, ACM SIGCOMM Workshop on VR/AR
 - 2017: IEEE INFOCOM, IEEE PAC, ACM MobiCom (external), IEEE CNS, ACM WinTECH
 - 2016: ACM CarSys, ACM MobiCom (external)
- **Journal reviewer:** IEEE/ACM Transactions on Networking (ToN), IEEE Transactions on Mobile Computing (TMC), IEEE Transactions on Dependable and Secure Computing (TDSC), IEEE Transactions on Computers (TC), IEEE Network Magazine
- **Session chair:** ACM APNet'22, ACM MobiCom'21, IEEE ICNP'21
- **Official topic previews:** ACM SIGCOMM'22, ACM SIGCOMM'21
- **ACM CCS 2025 Publicity Co-Chair**
- **ACM MobiCom 2018 Social Media Chair**
- **Juror of ACM SIGCOMM'19 Student Research Competition (SRC) and hackathon**
- **Member of UCLA Graduate Admission Review Committee, 2016--2017**

Teaching and Advising

- **Instructor and Co-instructor**

- Wireless and Mobile Network Security, Tsinghua University, Spring 2022
- Technical Reading, Writing, and Presentation for Networking Science, Tsinghua University, Fall 2022
- CS 211: Network Protocol and Systems Software Design for Wireless and Mobile (online graduate course), UCLA, Spring 2015

- **Advising and Mentoring**

- PhD students:
 - * Wei Liu (2021–now)
 - * Lixin Liu (2022–now)
 - * Yimei Chen (2022–now)
 - * Jingyi Lan (2023–now)
 - * Minghao Tang (2023–now, with Hewu Li)
- MS students:
 - * Yufeng Wang (2023–now, with Hewu Li)
 - * Wei Zhao (2021–now)
 - * Zhizheng Lv (2020–2023)
- Undergraduate students: Li Ouyang, Junyi Li, Jiabo Yang, Xi Long, Bowen Sun
- Mentor of 12 graduate, 2 undergraduate, and 2 high-school students, 2014–2020, UCLA

- **Teaching Assistant**

- CS 211: Network Protocol and Systems Software Design for Wireless and Mobile, UCLA, Fall 2015
- CS 118: Computer Network Fundamentals, UCLA, Fall 2014, Fall 2013
- CS 31: Introduction to Computer Science, UCLA, Winter 2014
- CS 33: Introduction to Computer Organization, UCLA, Spring 2014