

---

|                                  |   |
|----------------------------------|---|
| CONTACT INFORMATION              | <p>📍 Olsson Hall, 151 Engineer’s Way, Charlottesville, VA 22903</p> <p>✉ kunqian@virginia.edu</p> <p>🌐 <a href="https://kunqian.info">https://kunqian.info</a></p>  |
| RESEARCH INTERESTS               | Wireless networking; Smart sensing and intelligent systems; Ubiquitous and mobile computing; Cyber-physical systems   |
| EMPLOYMENT                       | <p><b>University of Virginia</b> <span style="float: right;">02/2024 – Now</span><br/>Assistant Professor in the Department of Computer Science</p> <p><b>University of California San Diego</b> <span style="float: right;">04/2019 – 01/2024</span><br/>Postdoc in the Department of Electrical and Computer Engineering<br/>Advisor: Prof. Xinyu Zhang</p>   |
| EDUCATION                        | <p><b>Tsinghua University</b> <span style="float: right;">09/2014 – 01/2019</span><br/>Ph.D. in Software Engineering.<br/>Advisor: Prof. Yunhao Liu</p> <p><b>Tsinghua University</b> <span style="float: right;">09/2010 – 07/2014</span><br/>B.Sc., Software Engineering. Rank: 1/60.</p>   |
| SELECTED CONFERENCE PUBLICATIONS | <ol style="list-style-type: none"> <li>1. Xingyu Chen, Zihao Feng, Ke Sun, <b>Kun Qian</b>, Xinyu Zhang, “RFCanvas: Modeling RF Channel by Fusing Visual Priors and Few-shot RF Measurements”, ACM Conference on Embedded Networked Sensor Systems (<b>SenSys</b>), 2024</li> <li>2. Timothy Woodford, <b>Kun Qian</b>, Xinyu Zhang, “Metasight: High-Resolution NLoS Radar with Efficient Metasurface Encoding”, ACM Conference on Embedded Networked Sensor Systems (<b>SenSys</b>), 2023</li> <li>3. Kai Zheng, <b>Kun Qian</b>, Timothy Woodford, Xinyu Zhang, “NeuroRadar: A Neuromorphic Radar Sensor for Low-Power IoT Systems”, ACM Conference on Embedded Networked Sensor Systems (<b>SenSys</b>), 2023 (<b>Best Paper Award</b>)</li> <li>4. <b>Kun Qian</b>, Lulu Yao, Kai Zheng, Xinyu Zhang, Tse Nga Ng, “UniScatter: a Metamaterial Backscatter Tag for Wideband Joint Communication and Radar Sensing”, ACM International Conference on Mobile Computing and Networking (<b>MobiCom</b>), 2023.</li> <li>5. Zheng Yang, Yi Zhang, <b>Kun Qian</b>, Chenshu Wu. “SLNet: A Spectrogram Learning Neural Network for Deep Wireless Sensing”, USENIX Symposium on Networked Systems Design and Implementation (<b>NSDI</b>), 2023.</li> <li>6. <b>Kun Qian</b>, Lulu Yao, Xinyu Zhang, Tse Nga Ng, “MilliMirror: 3D Printed Reflecting Surface for Millimeter-Wave Coverage Expansion”, ACM International Conference on Mobile Computing and Networking (<b>MobiCom</b>), 2022.</li> <li>7. <b>Kun Qian</b>(co-primary author), John Nolan(co-primary author), Xinyu Zhang, “RoS: Passive Smart Surface for Roadside-to-Vehicle Communication”, ACM Special Interest Group on Data Communication (<b>SIGCOMM</b>), 2021</li> <li>8. <b>Kun Qian</b>, Shilin Zhu, Xinyu Zhang, Li Erran Li, “Robust Multimodal Vehicle Detection in Foggy Weather Using Complementary Lidar and Radar Signals”, IEEE Computer Vision and Pattern Recognition Conference (<b>CVPR</b>), 2021.</li> </ol> |

9. **Kun Qian**, Yumeng Lu, Zheng Yang, Kai Zhang, Kehong Huang, Xinjun Cai, Chenshu Wu, Yunhao Liu, “Hidden Screen-Camera Communication on an Invisible and Inaudible Dual Channel”, USENIX Symposium on Networked Systems Design and Implementation (**NSDI**), 2021.
10. Renjie Zhao, Timothy Woodford, Teng Wei, **Kun Qian**, Xinyu Zhang, “M-Cube: a Millimeter-Wave Massive MIMO Software Radio”, ACM International Conference on Mobile Computing and Networking (**MobiCom**), 2020 (**Best Paper Award**).
11. Yue Zheng, Yi Zhang, **Kun Qian**, Guidong Zhang, Yunhao Liu, Chenshu Wu, Zheng Yang, “Zero-Effort Cross-Domain Gesture Recognition with Wi-Fi”, ACM International Conference on Mobile Systems, Applications, and Services (**MobiSys**), 2019.
12. **Kun Qian**, Chenshu Wu, Yi Zhang, Guidong Zhang, Zheng Yang, Yunhao Liu, “Widar2.0: Passive Human Tracking with a Single Wi-Fi Link”, ACM International Conference on Mobile Systems, Applications, and Services (**MobiSys**), 2018.
13. **Kun Qian**, Chenshu Wu, Fu Xiao, Yue Zheng, Yi Zhang, “Acousticcardiogram: Monitoring Heartbeats using Acoustic Signals on Smart Devices”, IEEE International Conference on Computer Communications (**INFOCOM**), 2018 (**Best In-Session Presentation Award**).
14. **Kun Qian**, Chenshu Wu, Zheng Yang, Yunhao Liu, Kyle Jamieson, “Widar: Decimeter-Level Passive Tracking via Velocity Monitoring with Commodity Wi-Fi”, ACM International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing (**MobiHoc**), 2017.
15. **Kun Qian**, Chenshu Wu, Zimu Zhou, Yue Zheng, Zheng Yang, Yunhao Liu, “Inferring Motion Direction using Commodity Wi-Fi for Interactive Exergames”, ACM CHI Conference on Human Factors in Computing Systems (**CHI**), 2017 (**Honorable Mention Award**).
16. **Kun Qian**, Chenshu Wu, Zheng Yang, Zimu Zhou, Xu Wang, Yunhao Liu, “Tuning by Turning: Enabling Phased Array Signal Processing for WiFi with Inertial Sensors”, IEEE International Conference on Computer Communications (**INFOCOM**), 2016.
17. Chenshu Wu, Zheng Yang, Zimu Zhou, **Kun Qian**, Yunhao Liu, Mingyan Liu, “PhaseU: Real-time LOS Identification with WiFi”, IEEE International Conference on Computer Communications (**INFOCOM**), 2015.
18. **Kun Qian**, Chenshu Wu, Zheng Yang, Yunhao Liu, Zimu Zhou, “PADS: Passive Detection of Moving Targets with Dynamic Speed using PHY Layer Information”, IEEE International Conference on Parallel and Distributed Systems (**ICPADS**), 2014 (**Best Paper Candidate**).

SELECTED  
JOURNAL  
PUBLICATIONS

1. John Nolan, **Kun Qian**, Xinyu Zhang, “KeyStub: A Passive RFID-based Keypad Interface Using Resonant Stubs”, ACM Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT**), 7(4), 2024.
2. Yi Zhang, Yue Zheng, **Kun Qian**, Guidong Zhang, Yunhao Liu, Chenshu Wu, Zheng Yang, “Widar3.0: Zero-Effort Cross-Domain Gesture Recognition with Wi-Fi”, IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 44(11), 2022.

3. **Kun Qian**, Zhaoyuan He, Xinyu Zhang, “3D Point Cloud Generation with Millimeter-Wave Radar”, ACM Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT**), 4(4), 2020.
4. Jingao Xu, Hengjie Chen, **Kun Qian**, Erqun Dong, Min Sun, Chenshu Wu, Li Zhang, Zheng Yang, “iVR: Integrated Vision and Radio Localization with Zero Human Effort”, ACM Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT**), 3(3), 2019.
5. **Kun Qian**, Chenshu Wu, Zheng Yang, Zimu Zhou, Xu Wang, Yunhao Liu, “Enabling Phased Array Signal Processing for Mobile WiFi Devices”, IEEE Transactions on Mobile Computing (**TMC**), 17(8), 2018.
6. **Kun Qian**, Chenshu Wu, Zheng Yang, Yunhao Liu, Fugui He, Tianzhang Xing, “Enabling Contactless Detection of Moving Humans with Dynamic Speeds using CSI”, ACM Transactions on Embedded Computing Systems (**TECS**), 17(2), 2018.

BOOKS

1. Zheng Yang, **Kun Qian**, Chenshu Wu, Yi Zhang, “Smart Wireless Sensing: From IoT to AIoT”, Springer, 2021.

EXTRAMURAL GRANTS

1. NSF NeTS PI, 10/2024 to 09/2028  
 - *Project title*: “NeTS: Medium: Generative Channel Cartography for Giga MIMO Networks on the 6G Upper Mid-band”  
 - *Co-PI*: Prof. Xinyu Zhang (UCSD)

HONORS & AWARDS

- Best Paper Award, SenSys 2023 (1/179) 2023
- Best Paper Award, MobiCom 2020 (2/384) 2020
- Best In-Session Presentation Award, INFOCOM 2018 (1/4) 2018
- Beijing Outstanding Postgraduate Award 2018
- National Scholarship 2015 – 2018
- Honorable Mention Award, CHI 2017 2017
- Best Paper Candidate, ICPADS 2014 (4/323) 2014
- Tsinghua Future Scholar Fellowship 2014
- Tsinghua Outstanding Graduate Award 2014
- Beijing Outstanding Graduate Award 2014
- Tsinghua Outstanding Graduate Thesis Award 2014
- Tsinghua “December 9th” Scholarship 2013
- National Scholarship 2012

TEACHING

**University of Virginia**

- CS 4501 - Wireless for the Internet of Things Spring 2025  
 Instructor
- CS 6501 - Wireless Sensing for Internet of Things Fall 2024  
 Instructor

SERVICE

**Journal Reviewer:** ToSN, TMC, ToN, TWC, TVT, IMWUT, IoT Journal

**TPC Member:** INFOCOM'25, RCom'24, CoNext'23, MSN'21, ICPADS'19, S3'19

**Track Chair:** BigCom'24