

QIUYUE (SHIRLEY) XUE

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Paul G. Allen School of Computer Science & Engineering
University of Washington ◊ Seattle, WA 98195-2350

EDUCATION

- University of Washington** *2019 - 2025*
Ph.D. candidate, Computer Science & Engineering
Advisors: Shwetak Patel, Vikram Iyer
- Georgia Institute of Technology** *2017 - 2019*
M.S., Computer Science
Advisors: Gregory Abowd, Thad Starner
- Peking University, China** *2013 - 2017*
B.S., Computer Science
B.S., Microelectronics
Advisors: Chenren Xu, Wei Wang

PROFESSIONAL EXPERIENCE

- Research intern, Microsoft Research** Jun 2022 - Oct 2022
Research for Industry group, Networking Research group
Mentor: Vaishnavi Ranganathan , Bodhi Priyantha
- Research intern, Apple AI/ML** Jun 2021 - Oct 2021
Mentor: Saman Naderiparizi
- Student researcher, Google Health Research and Innovation** Jun 2020 - Mar 2021
Mentors: D. Shin, Mark Malhotra, Anupam Pathak
- ML SDE intern, Bloomberg ML team** May 2018 - Aug 2018
Mentor: Karan Uppal, Temma Choji

PUBLICATIONS

- Qiuyue Shirley Xue, Dilini Nissanka, Tammy Yan, Ruiqing Wang, Shwetak Patel, Vikram Iyer. PPG Earring: Smart Wireless Earring for Heart Health Monitoring. Submitted to CHI'25
- Qiuyue Shirley Xue, Eric Martin, Jiaqing Liu, Ruiqing Wang, Antonio Glenn, Richard Li, Vikram Iyer, Shwetak Patel. ECG Necklace: Low-power Wireless Necklace for Continuous ECG monitoring. Submitted to CHI'25
- Qiuyue Shirley Xue*, Yujia Liu*, Joseph Breda, Mastafa Springston, Vikram Iyer, and Shwetak Patel. Thermal earring: Low-power wireless earring for longitudinal earlobe temperature sensing. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 7(4):1–28, 2024
- Qiuyue Shirley Xue, D Shin, Anupam Pathak, Jake Garrison, Jonathan Hsu, Mark Malhotra, and Shwetak Patel. Luckychirp: Opportunistic respiration sensing using cascaded sonar on commodity devices. In *2022 IEEE International Conference on Pervasive Computing and Communications (PerCom)*, pages 164–171. IEEE, 2022

5. Vikram Iyer*, Maruchi Kim*, Qiuyue Shirley Xue*, Anran Wang, Shyamnath Gollakota. Airdrop-ping sensor networks from drones and insects. In Proceedings of the 26th Annual International Conference on Mobile Computing and Networking, pages 1–14, 2020
6. Anandghan Waghmare, Qiuyue Xue, Dingtian Zhang, Yuhui Zhao, Shivan Mittal, Nivedita Arora, Ceara Byrne, Thad Starner, and Gregory D Abowd. Ubiquitous: Self sustaining ubiquitous touch interfaces. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 4(1):1–22, 2020
7. D Shin and Shirley Xue. Optical accessory to add touch capability to a non-touchscreen device. 2020
8. Rocko Graziano, David Benton, Sarthak Wahal, Qiuyue Xue, P Tim Miller, Nick Larsen, Diego Vacanti, Pepper Miller, Khushhall Chandra Mahajan, Deepak Srikanth, et al. Jack watson: Addressing contract cheating at scale in online computer science education. In *Proceedings of the sixth (2019) ACM conference on learning@ scale*, pages 1–4, 2019
9. Nivedita Arora, Qiuyue Xue, Dhruva Bansal, Peter McAughan, Ryan Bahr, Diego Osorio, Xiaomeng Ma, Alanson P Sample, Thad E Starner, and Gregory D Abowd. Surface++ a scalable and self-sustainable wireless sound sensing surface (poster). In *Proceedings of the 17th Annual International Conference on Mobile Systems, Applications, and Services*, pages 543–544, 2019
10. Cheng Zhang, Qiuyue Xue, Anandghan Waghmare, Ruichen Meng, Sumeet Jain, Yizeng Han, Xinyu Li, Kenneth Cunefare, Thomas Ploetz, Thad Starner, et al. Fingerping: Recognizing fine-grained hand poses using active acoustic on-body sensing. In *Proceedings of the 2018 CHI conference on human factors in computing systems*, pages 1–10, 2018
11. Cheng Zhang, Qiuyue Xue, Anandghan Waghmare, Sumeet Jain, Yiming Pu, Sinan Hersek, Kent Lyons, Kenneth A Cunefare, Omer T Inan, and Gregory D Abowd. Soundtrak: Continuous 3d tracking of a finger using active acoustics. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 1(2):1–25, 2017
12. Cheng Zhang, Sinan Hersek, Yiming Pu, Danrui Sun, Qiuyue Xue, Thad E Starner, Gregory D Abowd, and Omer T Inan. Bioacoustics-based human-body-mediated communication. *Computer*, 50(2):36–46, 2017

PATENTS

Wearable devices for detecting body and ambient temperature

Qiuyue (Shirley) Xue, Yujia Liu, Vikram Iyer, Shwetak Patel

US Patent submitted

Thin and flexible self-powered vibration transducer employing triboelectric nanogeneration

Nivedita Arora, Gregory D Abowd, Mohit Gupta, Diego Osorio, Seyedeh Fereshteh Shahmiri, Thad Eugene Starner, Yi-Cheng Wang, Zhengjun Wang, Zhong Lin Wang, Steven L Zhang, Peter McAughan, Qiuyue Xue, Dhruva Bansal, Ryan Bahr, Emmanouil Tentzeris

US Patent 10,932,063

Wearable devices for detecting body and ambient temperature

Cheng Zhang, Gregory D. Abowd, Omer Inan, Pranav Kundra, Thomas Ploetz, Yiming Pu, Thad Eugene Starner, Anandghan Waghmare, Xiaoxuan Wang, Kenneth A. Cunnefare, Qiuyue Xue *US Patent 11,762,474*

TEACHING AND MENTORSHIP

Teaching Assistant:

University of Washington CSE/ECE 475: Embedded Capstone class, undergrad and grad level (2022 Fall, 2023 Fall)

Georgia Tech CS 6001: Artificial Intelligence, grad level (2019 Spring)

Mentored Masters Students

Nancy (Yujia) Liu (ECE, now PhD student at UCSD PhD)

Jiaqing Liu (ECE)

Tammy Yan (HCDE)

Ruiqing Wang (UW Global Innovation Exchange Program)

Yuhua Nie (ECE)

Mentored Undergraduates

Dilini Nissanka (CSE)

Eric Martin (ECE)

Chetana Iyer (CSE)

Mentored in CSNext (for underrepresented communities)

Sravya Nagalakunta

Yvonne Jose

Thanh Tong

Deepansha Singh

Ying Zhu

Wanting Mao

Cheko Mkocheke

AWARDS & FUNDING

University of Washington Innovation Gap Fund award (for smart earring), \$10,000, 2023

Samsung Global Research Outreach Grant Proposal, submitted, 2024

Best poster award, Mobisys 2019

Academic Excellence Awards, Peking University, 2015

SELECTED MEDIA COVERAGE

University of Washington front page: “UW-developed smart earrings can monitor a person’s temperature”

GeekWire: “New jewel in wearable tech: UW researchers create smart earring to monitor body temperature”

DesignBoom: “researchers create thermal earring that can monitor temperature and stress like smart-watch”

FemTech Insider: “University of Washington Researchers Develop Smart Earrings for Reproductive Health Monitoring”

King 5 Seattle TV: “UW engineering-developed ‘smart earrings’ to measure body temperature: Health-Link”

ACADEMIC SERVICE

Student volunteer: UIST 2022, Ubicomp 2017

Paper reviewer: IMWUT/Ubicomp, CHI, UIST, Journal of open hardware