Dong Li

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Current Position

Assistant Professor
Department of Computer Science and Electrical Engineering
University of Maryland, Baltimore County

Affiliated Faculty, UMBC AI Center

Director, Future Sensing and Interaction (FSI) Lab

Education

2024   **Ph.D.**, Computer Science, University of Massachusetts Amherst
Advisor: Jie Xiong, Sunghoon Ivan Lee
Thesis: Advancing Acoustic Sensing from the Laboratory to Real World: Theories, Applications, and Practical Considerations

2018   **M.Eng.**, Software Engineering, Shanghai Jiao Tong University

2015   **B.S. (Honors)**, Computer Science, University of Electronic Science and Technology of China

Employment History

Jun 2023-Sep. 2023	**Apple Inc.** Intern, Wireless Tech & Ecosystems Mentor: Prashant Vashi, Ioannis (Yiannis) Pefkianakis
May 2022-Dec. 2022	**Samsung Research America** Research Intern, Standard and Mobility Innovation Lab Mentor: Hao Chen
	University of Massachusetts Amherst
2018-2024	Graduate Research Assistant, College of Information & Computer Sciences
2019-2024	Graduate Teaching Assistant, College of Information & Computer Sciences

Publications

Update: For the most recent publications and citation metrics, refer to my Google Scholar profile.
Legend: [†] denotes equal contribution; underline denotes my advisee.

Conference Proceedings

[C1]   Xiaoxuan Liang[†], Zhaolong Wei[†], Dong Li, Jie Xiong, and Jeremy Gummeson. "SONDAR: Size and Shape Measurements Using Acoustic Imaging". In *Proceedings of the Twenty-fifth International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing (**MobiHoc**)*. 2024.

[C2]   Shirui Cao[†], Dong Li[†], Sunghoon Ivan Lee, and Jie Xiong. "Powerphone: Unleashing the acoustic sensing capability of smartphones". In *Proceedings of the 29th Annual International Conference on Mobile Computing and Networking (**MobiCom**)*. 2023.

[C3]   Xiangru Chen[†], Dong Li[†], Yiran Chen, and Jie Xiong. "Boosting the sensing granularity of acoustic signals by exploiting hardware non-linearity". In *Proceedings of the 21st ACM Workshop on Hot Topics in Networks (**HotNets**)*. 2022.

[C4]   Zhihui Gao, Ang Li, Dong Li, Jialin Liu, Jie Xiong, Yu Wang, Bing Li, and Yiran Chen. "Mom: Microphone based 3d orientation measurement". In *2022 21st ACM/IEEE International Conference on Information Processing in Sensor Networks (**IPSN**)*. 2022.

[C5]   Dong Li, Jialin Liu, Sunghoon Ivan Lee, and Jie Xiong. "Room-scale hand gesture recognition using smart speakers". In *Proceedings of the 20th ACM Conference on Embedded Networked Sensor Systems (**SenSys**)*. 2022.

[C6]   Dong Li[†], Shirui Cao[†], Sunghoon Ivan Lee, and Jie Xiong. "Experience: practical problems for acoustic sensing". In *Proceedings of the 28th Annual International Conference on Mobile Computing And Networking (**MobiCom**)*. 2022.

[C7]   Dong Li, Jialin Liu, Sunghoon Ivan Lee, and Jie Xiong. "FM-track: pushing the limits of contactless multi-target tracking using acoustic signals". In *Proceedings of the 18th Conference on Embedded Networked Sensor Systems (**SenSys**)*. 2020.

[C8]   Bo Chen, Qian Zhang, Run Zhao, Dong Li, and Dong Wang. "SGRS: A sequential gesture recognition system using COTS RFID". In *2018 IEEE Wireless Communications and Networking Conference (**WCNC**)*. 2018.

[C9]   Qian Zhang, Dong Li, Run Zhao, Dong Wang, Yufeng Deng, and Bo Chen. "RFree-ID: An unobtrusive human identification system irrespective of walking cofactors using cots RFID". In *2018 IEEE International Conference on Pervasive Computing and Communications (**PerCom**)*. 2018.

[C10] Dong Li, Feng Ding, Qian Zhang, Run Zhao, Jinshi Zhang, and Dong Wang. "TagController: A universal wireless and battery-free remote controller using passive RFID tags". In *Proceedings of the 14th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (**MobiQuitous**)*. 2017. Best Paper Runner Up.

[C11] Jinshi Zhang, Qian Zhang, Dong Li, Run Zhao, and Dong Wang. "RFlow-ID: Unobtrusive workflow recognition with COTS RFID". In *Proceedings of the 14th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (**MobiQuitous**)*. 2017.

[C12] Run Zhao, Qian Zhang, Dong Li, Haonan Chen, and Dong Wang. "A novel accurate synthetic aperture RFID localization method with high radial accuracy". In *2017 IEEE 18th International Symposium on A World of Wireless, Mobile and Multimedia Networks (**WoWMoM**)*. 2017.

[C13] Yang Xu, Xuemei Hu, Yan Li, Dong Li, and Mengjun Yang. "Using complex network effects for communication decisions in large multi-robot teams". In *Proceedings of the 2014 international conference on Autonomous agents and multi-agent systems (**AAMAS**)*. 2014.

Journal Articles

[J1] Kuang Yuan, Dong Li, Hao Zhou, Zhehao Li, Lili Qiu, Swarun Kumar, and Jie Xiong. "WindDancer: Understanding Acoustic Sensing under Ambient Airflow". *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT/UbiComp**)* (2025).

[J2] Dong Li, Jialin Liu, Sunghoon Ivan Lee, and Jie Xiong. "Lasense: Pushing the limits of fine-grained activity sensing using acoustic signals". *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT/UbiComp**)* (2022).

[J3] Jialin Liu[†], Dong Li[†], Lei Wang, Fusang Zhang, and Jie Xiong. "Enabling contact-free acoustic sensing under device motion". *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT/UbiComp**)* (2022).

[J4] Jialin Liu, Dong Li, Lei Wang, and Jie Xiong. "BlinkListener: " Listen" to Your Eye Blink Using Your Smartphone". *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (**IMWUT/UbiComp**)* (2021).

[J5] Qian Zhang, Run Zhao, Dong Li, and Dong Wang. "Unobtrusive and robust human identification using COTS RFID". *Computer Networks* (2020).

Peer-reviewed Posters

[P1] Kodilinye Mkpasi and Dong Li. *UltraControl: Capturing Ultrasound Leaked from Home Appliances for Smartphone-Based Gesture Control*. Department of Computer Science and Electrical Engineering (CSEE) Research Day, University of Maryland, Baltimore County (UMBC). 2025.

[P2] Riishav Guptaa and Dong Li. *Continuous Blood Pressure Monitoring Using Smartphones and Wearables: A Survey of Recent Advances and Challenges*. College of Engineering and Information Technology (COEIT) Research Day, University of Maryland, Baltimore County (UMBC). 2025. Research Day Poster Award.

Peer-reviewed Demos

[D1] Hanqing Guo, Dong Li, Ruofeng Liu, and Yao Zheng. *Demo: Disrupting In-Car mmWave Sensing Through IRS Manipulation*. In the 46th IEEE Symposium on Security and Privacy (**IEEE S&P SecureTrans**). 2025. Best Demo Award.

Ph.D. Dissertation

[T1] Dong Li. *Advancing Acoustic Sensing from the Laboratory to Real World: Theories, Applications, and Practical Considerations*. University of Massachusetts Amherst. 2024.

Intellectual Property

[IP1] Hao Chen, Guanbo Chen, Chang Hao-Hsuan, Dong Li, and Abhishek Sehgal. *Presence detection and recognition with wi-fi*. US Patent US17/936,799. 2023.

Grants & Funding

2025-26	Google Research Scholar Award	($60K; PI)
2025-26	UMBC Faculty Entrepreneurship AcceleraTor Fund (FEAT)	($10K; PI)
2025-26	UMB ICTR Accelerated Translational Incubator Pilot (ATIP) Grant	($50K; PI)
2025	Faculty Success Program by National Center for Faculty Development & Diversity Program (NCFDD)	($5K)
2025	UMBC Summer Research Faculty Fellowship (SURFF)	($8K)
2025	UMBC Supplement for Undergraduate Research Experiences (SURE)	($1.5K; PI)

Awards & Honors

Best Demo Award, IEEE S&P SecureTrans 2025	2025
Student Travel Grant, MobiCom 2022	2022
Student Travel Grant, HotNets 2022	2022
Dr. Phil Bernstein Graduate Scholarship, UMass Amherst	2022
Bosch Scholarship, SJTU	2017
Best Paper Runner-up Award, MobiQuitous 2017	2017
Google Excellence Scholarship	2014
Outstanding Undergraduate Award, CCF	2014
China National Scholarship	2013, 2012

Teaching

University of Maryland, Baltimore County

Instructor, CMSC 411, Computer Architecture	Spring 2025
Instructor, CMSC 699, Independent Study	Spring 2025
Instructor, CMSC 491/691, Mobile and Wireless Sensing	Fall 2024

University of Massachusetts Amherst

Teaching Assistant, COMPSCI 565, Advanced Digital Forensics	Spring 2024
Teaching Assistant, COMPSCI 240, Reasoning Under Uncertainty	Fall 2022, Spring 2019

Presentations

(Lightening Talk), ACSIC SOFC "Turning Smartphones and Earphones into Scalable Cardiovascular Monitors"	05/2025
(Guest Lecture), University of Pittsburgh	04/2025
(Invited Talk), Center for Real-time Distributed Sensing and Autonomy (CARDS)	03/2025
(Lightening Talk), CSEE Welcome Week	08/2024

"Advancing Acoustic Sensing from the Laboratory to Real World: Theories, Applications, and Practical Considerations"

Academic Advising

Ph.D. Students

Soham Khisa	(B.S. BUET, Bangladesh)	Fall 2025

Master Students

Riishav Guptaa	(B.Tech, Manipal Institute of Technology, India)	2025-present

Undergraduate

Ayodeji Adesina	(Junior, Meyerhoff Scholar)	2025-present
Raiyaan Tareen	(Senior)	2025-present
Kaleem Butt	(Junior)	2025-present
Kodilinye Mkpasi	(Sophomore, NSF REU Grant)	2024-present

Other Students

Kuang Yuan	(Ph.D., ECE, Carnegie Mellon University)	2024
Renzhi Hao	(Independent Researcher)	2024-present
Xiaoxuan Liang	(Ph.D., ECE, UMasss Amhest)	2023-present
Xiangru Chen	(Ph.D., CS, University of Pittsburgh)	2022
Shirui Cao	(Ph.D., CS, UMasss Amherst)	2021-present

Academic Service

National Science Foundation

Reviewer, DCC CAREER Mock-Up Panel	2025

Session Chair

IEEE Conference on Pervasive Computing and Communications (PerCom)	2025

Reviewer / Program Committee (PC)

Reviewer, Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)	2022-25
Reviewer, IEEE Transactions on Mobile Computing (TMC)	2022-25
Artifact Evaluation Committee, Mobile Systems, Applications, and Services (MobiSys)	2025
Reviewer, International Symposium on Wearable Computers (UbiComp/ISWC)	2025
PC, Embedded Wireless Systems and Networks (EWSN)	2025, 2024
PC, IEEE Conference on Pervasive Computing and Communications (PerCom)	2025
PC, IEEE Conference on Parallel and Distributed Systems (ICPADS)	2024
PC, IEEE Conference on Mobility, Sensing and Networking (MSN)	2024

Reviewer, IEEE/ACM Transactions on Networking (ToN)	2024
PC, Multiple Input Modalities and Sensations for VR/AR Interactions (MIMSVAI)	2024
PC, IEEE-EMBS International Conference on Body Sensor Networks (BSN)	2025, 2023
Artifact Evaluation Committe, Mobile Computing And Networking (MobiCom)	2023
Reivewer, ACM Transactions on Sensor Networks (TOSN)	2023
Shadow PC, ACM Conference on Embedded Networked Sensor Systems (SenSys)	2022

Leadership

Director, Future Sensing and Interaction Lab	UMBC
Organizer, First Workshop on Intelligent Acoustic Sensing on Wearables	2025
Local Chair, ACM/IEEE Symposium on Edge Computing (SEC)	2025
Web Chair, ACM Conference on Embedded Networked Sensor Systems (SenSys)	2022

University Service

UMBC HPCF Governance, Subcommittee for SIG-GPU	2025-present
Graduate Admissions Committee	2024-present
Member, Asian and Asian American Faculty Staff Council	2024-present
Department Publicity Committee	2024-present
Faculty Mentor, Center for Women in Technology	2024-present
Faculty Mentor, McNair Scholars Program	2024-present
Faculty Mentor, Meyerhoff Program	2024-present
Undergraduate Student Advisor	2024-present
Reviewer, COEIT Research Day	2025
Reviewer, COEIT Student Summer Projects	2025
Reviewer, COEIT Interdisciplinary proposals	2025
Interviewer, CSEE Faculty Candidates	2025
Interviewer, CoEIT Dean Listening Sessions	2025
Representative, COEIT Meet-and-Greet Admitted Student Sneak Peek	2025
Member, CS Graduate Applicant Recruitment	2024

Selected Media Coverage

Google Research Scholar Program recipients	
Google Research News	06/2025
UMBC researchers partner with UMB to advance healthcare technology	
UMBC News	05/2025
Congratulations to the 2025 UMB ICTR Pilot Grant Awardees!	
ICTR Pilot Grant Awardee News	05/2025

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