Chenning Li

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Networks and Mobile Systems group at CSAIL
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Research Interests

ML for Networks/Systems, Low-power Wireless Networks, Edge/Mobile Computing

Education

Aug 2022 - Present	**Ph.D.** in Computer Science at MIT
	Advisor: Dr. Hari Balakrishnan
Aug 2019 - Aug 2022	**M.S.** in Computer Science at Michigan State University
	Advisor: Dr. Yunhao Liu & Dr. Zhichao Cao
Aug 2014 - July 2018	**BEng.** from Tsinghua University
	Major: Aerospace Engineering & Minor: Computer Science

Conference Publications

1. **Chenning Li**, Xiuzhen Guo, Longfei Shangguan, Zhichao Cao, and Kyle Jamieson. "CurvingLoRa to Boost LoRa Network Capacity via Concurrent Transmission". In proceedings of **USENIX NSDI**, 2022.

2. **Chenning Li**, Xiao Zeng, Mi Zhang, and Zhichao Cao. "PyramidFL: A Fine-grained Client Selection Framework for Efficient Federated Learning". In proceedings of **ACM MobiCom**, 2022.

3. **Chenning Li**, Zhichao Cao, and Li Xiao. "CurveALOHA: Non-linear Chirps Enabled High Throughput Random Channel Access for LoRa". In proceedings of **IEEE INFOCOM**, 2022.

4. **Chenning Li**, Li Liu, Zhichao Cao, Mi Zhang. "WiVelo: Fine-grained Walking Velocity Estimation for Wi-Fi Passive Tracking". In proceedings of **IEEE SECON**, 2022.

5. **Chenning Li**, Hanqing Guo, Shuai Tong, Xiao Zeng, Zhichao Cao, Mi Zhang, Qiben Yan, Li Xiao, Jiliang Wang, and Yunhao Liu. "NELoRa: Towards Ultra-low SNR LoRa Communication with Neural-enhanced Demodulation". In proceedings of **ACM SenSys**, 2021.
   Best Paper Award, ACM SIGMOBILE Research Highlight.

6. **Chenning Li**, Zheng Liu, Yuguang Yao, Zhichao Cao, Mi Zhang, and Yunhao Liu. "Wi-Fi See It All: Generative Adversarial Network-augmented Versatile Wi-Fi Imaging". In proceedings of **ACM SenSys**, 2020.

7. **Chenning Li**, Manni Liu, Zhichao Cao. "WiHF: Enable User Identified Gesture Recognition with WiFi". In proceedings of **IEEE INFOCOM**, 2020.

8. Hanqing Guo*, **Chenning Li***, Lingkun Li, Zhichao Cao, Qiben Yan, Li Xiao. "NEC: Speaker Selective Cancellation via Neural Enhanced Ultrasound Shadowing". In proceedings of **IEEE/IFIP DSN**, 2022.

9. Yidong Ren*, Li Liu*, **Chenning Li***, Zhichao Cao, and Shigang Chen. "Does LoRaWAN Scale in Urban Area? Fine-grained Coverage Measurement with Mobility". In proceedings of **IEEE ICNP**, 2022.

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[1]* denotes the co-author information.

10. Jialuo Du, **Chenning Li**, Zhichao Cao, and Yunhao Liu. "SRPeek: Super Resolution Enabled Screen Peeking via COTS Smartphone". In proceedings of **IEEE ICPADS**, 2021.

Journal Publications

1. **Chenning Li**, and Zhichao Cao. "LoRa Networking Techniques for Large-scale and Long-term IoT: A Down-to-top Survey", ACM Computing Surveys (**ACM CSUR**), to appear.

2. **Chenning Li**, Zhichao Cao, and Yunhao Liu. "Deep AI Enabled Ubiquitous Wireless Sensing: A Survey", ACM Computing Surveys (**ACM CSUR**).

3. **Chenning Li**, Manni Liu, and Zhichao Cao. "WiHF: Gesture and User Recognition with Wi-Fi", IEEE Transactions on Mobile Computing (**IEEE TMC**).

Industrial Experience

1. **Microsoft**: Research Intern - Networking Research Group. May-Aug 2022

2. **TikTok**: Data-System-Network Engineering Intern. Feb-Apr 2022

3. **CodePath**: iOS Development Course. Awarded the Excellent Presentation during the CodePath Mobile Development Virtual Demo Day. Aug-Dec 2020.

Awards

1. **Student Grant**, USENIX NSDI & IEEE INFOCOM, 2022

2. **Best Paper Award**, ACM SenSys, 2021

3. **Named an Engineering Distinguished Scholar**, MSU, 2019

4. **Outstanding Undergraduates**, Beijing & Tsinghua University, 2018

5. **Awarded the Outstanding Scholarship**, Tsinghua University, 2017

Teaching Experience

1. Teaching Assistant: CSE220 - Programming in C (Spring 2021, MSU)

2. Guest Lecturer: CSE891 - AIoT: Artificial Intelligence in the Edge (Spring 2020, Fall 2021, MSU)

Professional Service

1. **Program Committee Member**:

   (a) **ACM SIGCOMM '22** Artifact Evaluation Committee

   (b) **ACM SenSys '22** Shadow Program Committee

2. **Reviewer**:

   (a) **Conference:** ACM MobiCom '20/'21/'22, IEEE INFOCOM '20/'21/'22, ACM IPSN '22

   (b) **Journal:** IEEE Transactions on Mobile Computing (TMC), IEEE Transactions on Wireless Communications (TWC), ACM Transactions on Sensor Networks (TOSN), ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), IEEE Internet of Things Journal (IoTJ)