

Chengzhang Li

The Ohio State University

Columbus, OH

✉ li.13488@osu.edu

🏠 Homepage: chengzhang17.github.io

I am currently a research scientist at NSF AI-EDGE Institute, the Ohio State University, supervised by Prof. Ness Shroff. I received my Ph.D. degree in Computer Engineering from Virginia Tech in 2022, advised by Prof. Tom Hou. I received my B.S. degree in Electronic Engineering from Tsinghua University in 2017. My current research interests are AI on edge networks, Internet of Things, real-time scheduling in 5G/6G, and network optimization. My email address is li.13488@osu.edu.

Education

- 2017–2022 Ph.D. in Computer Engineering
M.S. in Computer Engineering (obtained in 2020)
ECE Department at Virginia Tech, Blacksburg, VA
Advisor: Prof. Tom Hou
- 2013–2017 B.S. in Electronics Engineering
EE Department at Tsinghua University, Beijing, China

Work Experience

- 2024–Present **Research Scientist, NSF AI-EDGE Institute**,
ECE, OSU. Supervisor: Prof. Ness Shroff.
- 2023–2024 **Postdoc, NSF AI-EDGE Institute**,
ECE, OSU. Supervisor: Prof. Ness Shroff.
- Summer 2022 **Software Engineer Intern**,
NVIDIA Corporation, Santa Clara, CA.

Awards

- 2025 **Distinguished TPC Member Award, IEEE INFOCOM 2025.**
- 2022 **Best Paper Award Candidate, IEEE MILCOM 2022.**
- 2021 **Student Conference Award, IEEE INFOCOM.**
- 2020 **Student Conference Award, IEEE INFOCOM.**
- 2019 **Student Travel Grant, IEEE ICDCS.**

Teaching

- Summer 2025 **Lecturer**
Computer Networks, AI-EDGE REU Program.
- Fall 2017 & Spring 2018 **Teaching Assistant**
ECE 2704 Signal & Systems, Virginia Tech.

Professional Services

- Conference TPC:** *IEEE INFOCOM 2026, 2025, 2024.*
- Reviewer:** *IEEE/ACM ToN, IEEE TIT, IEEE TWC, IEEE TNSE, IEEE ISIT, IEEE Comm. Magazine, AAAI AI Magazine, Nature Scientific Reports.*

Publications

Journal Articles

1. **Chengzhang Li**, Shaoran Li, Qingyu Liu, Y Thomas Hou, Wenjing Lou, and Sastry Kompella, "Eywa: A General Framework for Scheduler Design in Aol Optimization," *IEEE Internet of Things Journal*, vol. 12, no. 14, pp. 26255–26269, July. 2025.
2. **Chengzhang Li**, Qingyu Liu, Shaoran Li, Yongce Chen, Y Thomas Hou, Wenjing Lou, and Sastry Kompella, "Scheduling With Soft Age of Information Deadlines," *IEEE Internet of Things Journal*, vol. 12, no. 6, pp. 7133–7148, Mar. 2025.
3. **Chengzhang Li**, Qingyu Liu, Y. Thomas Hou, Wenjing Lou, and Sastry Kompella, "Aequitas: A 5G Scheduler for Minimizing Outdated Information in IoT Networks," *IEEE Internet of Things Journal*, vol. 11, no. 13, pp. 23322–23335, July. 2024.
4. **Chengzhang Li**, Qingyu Liu, Shaoran Li, Yongce Chen, Y. Thomas Hou, Wenjing Lou, and Sastry Kompella, "Scheduling with Age of Information Guarantee," *IEEE/ACM Transactions on Networking*, vol. 30, no. 5, pp. 2046–2059, Oct. 2022.
5. **Chengzhang Li**, Yan Huang, Shaoran Li, Yongce Chen, Brian A. Jalaian, Y. Thomas Hou, Wenjing Lou, Jeffrey H. Reed, and Sastry Kompella, "Minimizing Aol in a 5G-based IoT Network under Varying Channel Conditions," *IEEE Internet of Things Journal*, vol. 8, no. 19, pp. 14543–14558, Oct. 2021.
6. **Chengzhang Li**, Shaoran Li, Yongce Chen, Y. Thomas Hou, and Wenjing Lou, "Minimizing Age of Information under General Models for IoT Data Collection," *IEEE Transactions on Network Science and Engineering*, vol. 7, no. 4, pp. 2256–2270, Oct. 2020.
7. Shaoran Li, Nan Jiang, **Chengzhang Li**, Shiva Acharya, Yubo Wu, Weijun Xie, Wenjing Lou, and Y Thomas Hou, "Real-time MU-MIMO Beamforming with Limited Channel Samples in 5G Networks," *IEEE Transactions on Mobile Computing*, accepted, 2025.
8. Yubo Wu, **Chengzhang Li**, Y Thomas Hou, Wenjing Lou, "A Real-Time Super-Resolution DoA Estimation Algorithm for Automotive Radar Sensor," *IEEE Sensors Journal*, vol. 24, no. 22, pp. 37947–37961, Nov. 2024.
9. Peizhong Ju, **Chengzhang Li** (co-first author), Yingbin Liang, and Ness Shroff, "AI-EDGE: An NSF AI institute for future edge networks and distributed intelligence," *AI Magazine*, vol. 45, no. 1, pp. 29–34, Mar. 2024.
10. Naru Jai, Yi Shi, Shaoran Li, **Chengzhang Li**, Y Thomas Hou, Wenjing Lou, Jeffrey H Reed, Masoud Olfat, Sastry Kompella, and Luiz DaSilva, "Modeling and Optimization of Channel Allocation for PAL and GAA Users in the CBRS Band," *IEEE Transactions on Cognitive Communications and Networking*, vol. 10, no. 1, Feb. 2024.
11. Qingyu Liu, **Chengzhang Li**, Y. Thomas Hou, Wenjing Lou, Jeffery H. Reed, and Sastry Kompella, "Aion: A Bandwidth Conserving Scheduler with Data Freshness Guarantee," *IEEE Transactions on Mobile Computing*, vol. 23, no. 1, pp. 102–116, Jan. 2024.
12. P. Kheirkhah Sangdeh, **Chengzhang Li**, Hossein Pirayesh, Shichen Zhang, Huacheng Zeng, and Y. Thomas Hou, "CF4FL: A Communication Framework for Federated Learning in Transportation Systems," *IEEE Transactions on Wireless Communications*, vol. 22, no. 5, pp. 3821–3836, June 2023.
13. Shaoran Li, **Chengzhang Li**, Yan Huang, Brian Jalaian, Y. Thomas Hou, and Wenjing Lou, "Enhancing Resilience in Mobile Edge Computing with Processing Uncertainty," *IEEE Journal on Selected Areas in Communications*, vol. 41, no. 3, pp. 659–674, Mar. 2023.
14. Yongce Chen, Yan Huang, **Chengzhang Li**, Y. Thomas Hou, and Wenjing Lou, "Turbo-HB: A Sub-millisecond Hybrid Beamforming Design for 5G mmWave Systems," *IEEE Transactions on Mobile Computing*, vol. 22, no. 7, pp. 4332–4346, July 2023.

15. Yongce Chen, Shaoran Li, **Chengzhang Li**, Huacheng Zeng, Brian Jalaian, Y. Thomas Hou, and Wenjing Lou, "On DoF Conservation in MIMO Interference Cancellation based on Signal Strength in the Eigenspace," *IEEE Transactions on Mobile Computing*, vol. 22, no. 5, pp. 2862–2877, May 2023.
16. Shaoran Li, Yan Huang, **Chengzhang Li**, Y. Thomas Hou, Wenjing Lou, Brian Jalaian, and Stephen Russell, "Achieving Real-Time Spectrum Sharing in 5G Underlay Coexistence with Channel Uncertainty," *IEEE Transactions on Mobile Computing*, vol. 22, no. 4, pp. 1922–1937, Apr. 2023.
17. Darshan A. Ravi, Vijay K. Shah, **Chengzhang Li**, Y. Thomas Hou and Jeffrey H. Reed, "RAN Slicing in Multi-MVNO Environment under Dynamic Channel Conditions," *IEEE Internet of Things Journal*, vol. 9, no. 6, pp. 4748–4757, March 2022.
18. Shaoran Li, Yan Huang, **Chengzhang Li**, Brian A Jalaian, Y. Thomas Hou, Wenjing Lou, and Stephen Russell, "Maximize Spectrum Efficiency in Underlay Coexistence With Channel Uncertainty," *IEEE/ACM Transactions on Networking*, vol. 29, no. 2, pp. 764–778, April 2021.
19. Yan Huang, Shaoran Li, **Chengzhang Li**, Y. Thomas Hou, and Wenjing Lou, "A Deep Reinforcement Learning-based Approach to Dynamic eMBB/URLLC Multiplexing in 5G NR," *IEEE Internet of Things Journal*, vol. 7, no. 4, pp. 6439–6456, July 2020.

Conference Papers

1. **Chengzhang Li**, Peizhong Ju, Atilla Eryilmaz, and Ness B. Shroff, "Optimal Parallel Scheduling under Concave Speedup Functions," submitted to *ACM SIGMETRICS*, 2026.
2. **Chengzhang Li**, Peizhong Ju, Atilla Eryilmaz, and Ness B. Shroff, "Priority-Aware Encoding for Bandwidth-Efficient Real-Time Classification in 5G Networks," submitted to *IEEE INFOCOM*, 2026.
3. **Chengzhang Li**, Peizhong Ju, Atilla Eryilmaz, and Ness B. Shroff, "Two Levels Are All You Need: Simplifying Data Compression for Timely Edge Classification," accepted by *ACM MobiHoc*, 2025.
4. **Chengzhang Li**, Peizhong Ju, Atilla Eryilmaz, and Ness B. Shroff, "Efficient Multi-dimensional Compression for Network-edge Classification," in Proc. *ACM MobiHoc*, pp. 91–100, Athens, Greece, Oct. 7–10, 2024.
5. **Chengzhang Li**, Shaoran Li, Qingyu Liu, Y. Thomas Hou, Wenjing Lou, and Sastry Kompella, "Eywa: A general approach for scheduler design in AoI optimization," in Proc. *IEEE INFOCOM*, 9 pages, New York, USA, May 17–20, 2023.
6. **Chengzhang Li**, Qingyu Liu, Y. Thomas Hou, Wenjing Lou, Jeffery H. Reed, and Sastry Kompella, "Aequitas: A Uniformly Fair 5G Scheduler for Minimizing Outdated Information," *IEEE MASS*, pp. 180–187, Denver, CO, Oct. 20–22, 2022.
7. **Chengzhang Li**, Qingyu Liu, Shaoran Li, Yongce Chen, Y. Thomas Hou, and Wenjing Lou, "On Scheduling with AoI Violation Tolerance," in Proc. *IEEE INFOCOM*, 9 pages, virtual conference, May 10–13, 2021.
8. **Chengzhang Li**, Shaoran Li, Yongce Chen, Y. Thomas Hou, and Wenjing Lou, "AoI Scheduling with Maximum Thresholds," in Proc. *IEEE INFOCOM*, pp. 436–445, virtual conference, July 6–9, 2020.
9. **Chengzhang Li**, Yan Huang, Yongce Chen, Brian Jalaian, Y. Thomas Hou, and Wenjing Lou, "Kronos: A 5G Scheduler for AoI Minimization under Dynamic Channel Conditions," in Proc. *IEEE ICDCS*, pp. 1466–1475, Dallas, TX, July 7–10, 2019.
10. **Chengzhang Li**, Shaoran Li, and Y. Thomas Hou, "A General Model for Minimizing Age of Information at Network Edge," in Proc. *IEEE INFOCOM*, pp. 118–126, Paris, France, April 29–May 2, 2019.

11. Jihoon Yun, **Chengzhang Li**, Dhrubojyoti Roy, and Anish Arora, "MUDAS: Mote-scale Unsupervised Domain Adaptation in Multi-label Sound Classification," accepted by *ACM BuildSys*, 2025.
12. Sunjung Kang, **Chengzhang Li**, Atilla Eryilmaz, and Ness B. Shroff, "Balancing Current and Historical State Information in Remote Tracking Systems: A Randomized Update Approach," *IEEE INFOCOM ASol Workshop*, Vancouver, Canada, May 20, 2024.
13. Jihoon Yun, **Chengzhang Li**, and Anish Arora, "PAMLR: A Passive-Active Multi-Arm Bandit-Based Solution for LoRa Channel Allocation," *ACM BuildSys*, Istanbul, Turkey, Nov. 15–16, 2023.
14. Qingyu Liu, **Chengzhang Li**, Y. Thomas Hou, Wenjing Lou, and Sastry Kompella, "Age of Critical Information: Optimizing Data Freshness Based on Content Criticality," *IEEE MILCOM*, Boston, MA, USA, Oct. 30–Nov. 3, 2023.
15. Heng Jin, Qingyu Liu, **Chengzhang Li**, Y. Thomas Hou, Wenjing Lou, and Sastry Kompella, "Hector: A Reinforcement Learning-Based Scheduler for Minimizing Casualties of a Military Drone Swarm," *IEEE MILCOM*, National Capital Region, USA, Nov. 28–Dec. 2, 2022.
16. Qingyu Liu, **Chengzhang Li**, Y. Thomas Hou, Wenjing Lou, Jeffrey Reed, and Sastry Kompella, "Ao²I: Minimizing Age of Outdated Information to Improve Freshness in Data Collection," in Proc. *IEEE INFOCOM*, virtual conference, May 2–5, 2022.
17. Yubo Wu, **Chengzhang Li**, Y. Thomas Hou, and Wenjing Lou, "Real-time DoA Estimation for Automotive Radar," in Proc. *European Microwave Conference*, London, UK, April 2–7, 2022.
18. Naru Jai, Shaoran Li, **Chengzhang Li**, Y. Thomas Hou, Wenjing Lou, Jeffrey Reed, and Sastry Kompella, "Optimal Channel Allocation in the CBRS Band with Shipborne Radar Incumbents," in Proc. *IEEE DySPAN*, pp. 80–88, Los Angeles, CA, Dec. 13–15, 2021.
19. Shaoran Li, **Chengzhang Li**, Yan Huang, Brian A. Jalaian, Y. Thomas Hou, Wenjing Lou, "Task Offloading with Uncertain Processing Cycles," in Proc. *ACM MobiHoc*, pp. 51–60, Shanghai, China, July 26–29, 2021.
20. Qingyu Liu, **Chengzhang Li**, Y. Thomas Hou, Wenjing Lou, and Sastry Kompella, "Aion: A Bandwidth Optimized Scheduler with Aol Guarantee," in Proc. *IEEE INFOCOM*, 10 pages, virtual conference, May 10–13, 2021.
21. Yongce Chen, Yan Huang, **Chengzhang Li**, Y. Thomas Hou, and Wenjing Lou, "Turbo-HB: A Novel Design and Implementation to Achieve Ultra-Fast Hybrid Beamforming," in Proc. *IEEE INFOCOM*, pp. 1489–1498, virtual conference, July 6–9, 2020.
22. Shaoran Li, Yan Huang, **Chengzhang Li**, Brian Jalaian, Stephen Russell, Y. Thomas Hou, Wenjing Lou, and Benjamin MacCall, "A Real-Time Solution for Underlay Coexistence with Channel Uncertainty," in Proc. *IEEE GLOBECOM*, 6 pages, Waikoloa, HI, Dec. 9–13, 2019.
23. Shaoran Li, Yan Huang, **Chengzhang Li**, Brian A. Jalaian, Y. Thomas Hou, and Wenjing Lou, "Coping Uncertainty in Coexistence via Exploitation of Interference Threshold Violation," in Proc. *ACM MobiHoc*, pp. 71–80, Catania, Italy, July 2–5, 2019.
24. Yongce Chen, Shaoran Li, **Chengzhang Li**, Y. Thomas Hou, and Brian Jalaian, "To Cancel or Not to Cancel: Exploiting Interference Signal Strength in the Eigenspace for Efficient MIMO DoF Utilization," in Proc. *IEEE INFOCOM*, pp. 1954–1962, Paris, France, April 29–May 2, 2019.

Patents

1. Wireless Transmission Error Rate Prediction, US Patent Application No. 2025/0080256 A1, invented by **Chengzhang Li**, Yan Huang, Christian Ibars Casas, James Hansen Delfeld, and Nidhi Tomar, filed by Nvidia Corp at Aug. 31, 2023, published at Mar. 6, 2025.
2. Signal-to-Noise Ratio Adjustment, US Patent Application No. 2025/0211344 A1, invented by **Chengzhang Li**, Yan Huang, Christian Ibars Casas, James Hansen Delfeld, and Nidhi Tomar, filed by Nvidia Corp at Dec. 21, 2023, published at June 26, 2025.

References

Dr. Tom Hou

Bradley Distinguished Professor

The Bradley Department of Electrical and Computer Engineering, Virginia Tech

IEEE Fellow

Email: thou@vt.edu

.

Dr. Wenjing Lou

W.C. English Endowed Professor

Department of Computer Science, Virginia Tech

IEEE Fellow, ACM Fellow

Email: wjlou@vt.edu

.

Dr. Ness Shroff

Ohio Eminent Scholar Chaired Professor

Department of Electrical and Computer Engineering, The Ohio State University

Principal Investigator and Institute Director of NSF AI-EDGE Institute

IEEE Fellow

Email: shroff.11@osu.edu

.

Dr. Atilla Eryilmaz

Professor

Department of Electrical and Computer Engineering, The Ohio State University

Email: eryilmaz.2@osu.edu

.

Dr. Sastry Kompella

President and CEO

Nexcepta Inc.

IEEE Fellow

Email: skompella@nexcepta.com

.