

Yuhao Chen

Electrical and Computer Engineering – Princeton University – United States

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Education

- Ph.D in Electrical and Computer Engineering, Princeton University** 08/2024-Present
- Advisor: Prof. Yasaman Ghasempour
- M.E. in Electronic and Information Engineering, Tsinghua University** 08/2021-06/2024
- Thesis: Accurate CSI Acquisition for Extremely Large-Scale Antenna Array*
- Advisor: Prof. Linglong Dai
- B.E. in Electronic Information Science and Technology, Tsinghua University** 08/2017-06/2021
- Thesis: Wideband Beamforming for Reconfigurable Intelligent Surface*
- Advisor: Prof. Linglong Dai

Research Interests

- Reconfigurable intelligent surface (RIS) assisted wireless communications
- Terahertz communications
- Near-field communications

Publications

Book Chapters

- Z. Zhang, **Y. Chen**, Q. Yu, and L. Dai, "IRS architecture and hardware design," *Intelligent Surfaces Empowered 6G Wireless Network*, Wiley-IEEE Press, 2023.

Journal Papers

- **Y. Chen** and L. Dai, "Coded beam training for RIS assisted wireless communications," *IEEE Transactions on Wireless Communications*, vol. 24, no. 5, pp. 3854-3867, May 2025.
- **Y. Chen**, M. Jian, and L. Dai, "Channel estimation for RIS assisted wireless communications: Stationary or non-stationary?," *IEEE Transactions on Signal Processing*, vol. 72, pp. 3776-3791, Aug. 2024.
- **Y. Chen** and L. Dai, "Non-stationary channel estimation for extremely large-scale MIMO," *IEEE Transactions on Wireless Communications*, vol. 23, no. 7, pp. 7683-7697, Jul. 2024.
- **Y. Chen** and L. Dai, "Near-field wideband beam training for ELAA with uniform circular array," *Science China Information Sciences*, vol. 67, no. 6, pp. 162303, May 2024.
- M. Cui, H. Jiang, **Y. Chen**, and L. Dai, "Continuous-time channel prediction based on tensor neural ordinary differential equation," *China Communications*, vol. 21, no. 1, pp. 163-174, Jan. 2024.
- **Y. Chen**, J. Tan, M. Hao, R. MacKenzie, and L. Dai, "Accurate beam training for RIS-assisted wideband Terahertz communication," *IEEE Transactions on Communications*, vol. 71, no. 12, pp. 7425-7440, Dec. 2023.

Conference Papers

- **Y. Chen**, J. Tan, and L. Dai, "Analytical beam training for RIS-assisted wideband terahertz communication," in *Proceedings of 2023 IEEE Global Communications Conference (IEEE GLOBECOM'23)*, Kuala Lumpur, Malaysia, Dec. 2023.
- **Y. Chen**, Z. Zhang, M. Cui, and L. Dai, "Channel estimation for non-stationary extremely large-scale MIMO," in *Proceedings of 2023 IEEE 97th Vehicle Technology Conference (IEEE VTC'23 Spring)*, Florence, Italy, Jun. 2023.
- M. Cui, Z. Wu, **Y. Chen**, S. Xu, F. Yang, and L. Dai, "Demo: Low-power communications based on RIS and AI for 6G," in *Proceedings of 2022 IEEE International Conference on Communications (IEEE ICC'22) Workshops*, Gangnam-gu, Seoul, South Korea, May 2022. (**IEEE ICC 2022 Outstanding Demo Award**)

Others

- Z. Zhang, **Y. Chen**, Z. Wu, Y. Lu, Z. Wan, and L. Dai, "Active reconfigurable intelligent surface aided wireless communication prototype," in *Proceedings of 2023 IEEE Global Communications Conference (IEEE GLOBECOM'23, Demo Session)*, Kuala Lumpur, Malaysia, Dec. 2023.
- Z. Zhang, **Y. Chen**, Z. Peng, and L. Dai, "Active reconfigurable intelligent surface aided wireless communication prototype," in *Proceedings of 2022 IEEE Global Communications Conference (IEEE GLOBECOM'22, Demo Session)*, Rio de Janeiro, Brazil, Dec. 2022.

Patents

- L. Dai, **Y. Chen**, J. Li, J. Tan, M. Hao, and R. MacKenzie, "Wireless telecommunications network," 2024-01-11, WO 2024/007280 A1. (Granted)
- L. Dai, **Y. Chen**, "Channel estimation for extremely large-scale MIMO," 2023-08-09, ZL202310680438.8. (Granted)

Honors and Awards

- Excellent Master Dissertation of Tsinghua, 2024
- Excellent Graduates of Beijing, 2024
- The National Scholarship, 2023.
- The National First Prize of the 17th China Graduate Electronic Design Competition, 2022. (Top 1.7% among 5824 teams)
- IEEE ICC 2022 Outstanding Demo Award, 2022.
- Gold of the 49th International Exhibition of Inventions of Geneva, 2022.
- Gold of the 16th Beijing Invention Competition, 2022.
- Gold of the 25th National Invention Exhibition, 2021.
- The Grand Prize of the 11th "Challenge Cup" Technological Innovation Competition of Capital, 2021.
- Electronic Engineering "Stars of Electronic" Award of Tsinghua University, 2020.
- The Tsinghua University Excellent Comprehensive Scholarship, 2020.
- Excellent Student Cadre of Tsinghua Students' Union, 2019.
- Excellent League Cadre of Department EE, 2019.
- The Tsinghua University Excellent Social Work Scholarship, 2019.
- The Tsinghua University Excellent Art Scholarship, 2019.
- First Prize of the National College Students Physics Competition, 2018.
- The Tsinghua University Excellent Comprehensive Scholarship - SK Scholarship, 2018.
- The Tsinghua University Excellent Social Practice Scholarship, 2018.
- The Tsinghua University Excellent Social Work Scholarship, 2018.

Teaching

Data and Algorithm, Tsinghua University

Fall 2022, Spring 2023, Fall 2023

- Teaching Assistant

Professional Service

TPC member

- IEEE VTC 2025-Fall - Recent Results

Journal Reviewer

- IEEE Communications Magazine, IEEE Journal of Selected Topics in Signal Processing, IEEE Transactions on Wireless Communications, IEEE Transactions on Communications, IEEE Signal Processing Letters, IEEE Communications Letters, IEEE Wireless Communications Letters, China Communications

Conference Reviewer

- IEEE Globecom 2025, IEEE VTC 2024-Spring