Yushen Wang

📞 18154187386 ✉ xsml@std.uestc.edu.cn Ⓖ Personal Website

Educational Background

University of Electronic Science and Technology of China *Sept. 2022 - Jun. 2026 (expected)*
B.Eng in Communication Engineering

- Rank – **2/168 (top 1.19%)** GPA – **3.92/4**
- Major courses: Probability and Statistics (99), Stochastic Signal Analysis (96), Signals and Systems (95), Artificial Intelligence (95), Calculus I (94), Linear Algebra (90)
- Language: IELTS: **6.5** CET-4: **602** CET-6: **602**

Publications

- [C1] **Y. Wang**, W. Mei, X. Wei, B. Ning, and Z. Chen, "Antenna Position Optimization for Movable Antenna-Empowered Near-Field Sensing," accepted by *ICC Workshop*, 2025, arXiv:2502.03169. [PDF]
- [J1] **Y. Wang**, W. Mei, X. Wei, B. Ning, and Z. Chen, "Movable Antenna Empowered Near-Field Wireless Sensing via Antenna Position Optimization," to be submitted to *IEEE Transactions on Wireless Communications*.

Honors and Awards

- 2024 **National Scholarship (Top 1.5%)** for Undergraduates
- 2023 Luzhou Laojiao Corporate Scholarship (Top 2%) for Undergraduates
- 2022&2023 UESTC Outstanding Student Scholarship
- 2024 Mathematical Contest in Modeling (MCM) *Honorable Mention*
- 2024 National English Competition for College Students (NECCS) *National Third Prize*

Research Experiences

Multi-spectral and Panchromatic Image Fusion and Image Denoising *Sept. 2023 - Dec. 2023*

- Studied a multi-spectral and panchromatic satellite image fusion algorithm based on PanNet CNN, which mainly adopts a four-layer deep residual network to learn high-frequency details of the images.
- Reproduced deep residual network-based frameworks similar to PanNet, such as DiCNN and FusionNet.
- Designed a deep residual network-based CNN, achieving high-quality image denoising such as rain streak removal.

Partitioning-Based XL-MIMO Assisted Near-Field User Localization *Mar. 2024 - Jun. 2024*

- Learned a low-complexity partitioning-based XL-MIMO assisted near-field user localization algorithm, which proposes a Bayesian inference framework for handling maximum a posteriori (MAP) estimation problem of the user location without closed-form solutions, incorporateing algorithms including message passing, variational Bayesian line spectral estimation (VALSE), Gauss-Newton interpolation and block coordinate ascent (BCA).

Movable Antenna-Empowered Near-Field Sensing *Sept. 2024 - Present*

- Almost independently conducted comprehensive research for the ICC conference paper and journal.
- Discovered and rigorously proved that movable antenna (MA) technology can significantly enhance near-field sensing performance compared to conventional fixed-position antenna (FPA) arrays. The core innovation lies in minimizing the Cramér-Rao Bounds (CRBs) of estimation mean square errors (MSEs) of target parameters by optimizing antenna positions. Moreover, it was revealed that compared to far-field beamsteering, near-field beamfocusing enabled the sensing system to more accurately locate the target by exploiting information of the additional distance domain.
- Published a **first-authored** paper which is accepted by *ICC Workshop 2025* with **4** citations, and currently finished the journal version which is to be submitted to *IEEE Transactions on Wireless Communications* (see Section "Publications").

Skills and Services

- **Technical skills**: Experienced in **MATLAB** and **Python**. Available for **C** and **Verilog**.
- **Academic service**: **Peer Reviewer**, 2025 IEEE ICC Workshop, Montreal, Canada.
- **Social services**: Class academic officer; college peer counselor; core organizer of Green Volunteers Association.