Xinquan Wang

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Education

Zhejiang University, BS in Information Engineering Sep 2021 – Jun 2025

- GPA: 89.68/100
- **Coursework:** Data analysis and Algorithm Design, Matrix Theory, Probability and Mathematical Statistics

Experience

Program Leader, Student Research Training Program (National Level) – Zhejiang Univ. Apr 2023 - May 2024

- Developed a NN-based project for robust beamforming in millimeter-wave communications, which is NP-hard and requires high robustness and nearly real-time reaction.
- Proposed an optimization algorithm with gradient-as-input mechanism and ODE-based NN structure, which improved the performance by 2% while requiring only 1.61% of time consumption.
- Received excellent rating (highest level) after defense; produced 3 papers and 3 patents.

Research Assistant, Technology Innovation Institute & ZJU – UAE Aug 2023 - May 2024

- Developed a NN-based meta-learning structure that collaborates the optimization of phase shifting matrix and precoding matrix in RIS assisted communications.

Presenter and Contributor, IMT-2030 (6G) Standard Promotion Group Nov 2023 - Mar 2024

- Compiled and presented research findings at the IMT-2030(6G) Promotion Group standards discussion meeting (AI and RIS topics), contributing to the formulation and advancement of industry standards.

Publications

Energy-efficient Beamforming for RISs-aided Communications: Gradient Based Meta Learning [Code] [Blog][PDF] (**IEEE ComSoc Student Grant awarded**) Jun 2024

X. Wang, F. Zhu, Q. Zhou, Q. Yu, C. Huang, A. Alhammadi, Z. Zhang, C. Yuen, M. Debbah

in Proc. of the 2024 IEEE International Conference on Communications (ICC), June 9, 2024, pp. 5.98.

Robust Beamforming with Gradient-based Liquid Neural Network[Code] [PDF] Major rev.

X. Wang, F. Zhu, C. Huang, A. Alhammadi, F. Bader, Z. Zhang, C. Yuen, M. Debbah

submitted to IEEE Wireless Communications Letters. Under major revisions.

A Beamforming Inferring by Conditional WGAN-GP for Holographic Antenna Arrays May 2024 [PDF]

F. Zhu, **X. Wang**, C. Huang, A. Alhammadi, H. Chen, Z. Zhang, C. Yuen, M. Debbah

IEEE Wireless Communications Letters.

Robust Beamforming for RIS-aided Communications: Gradient-based Manifold Meta Learning[Code] [Blog] Minor rev.

F. Zhu, **X. Wang**, C. Huang, Z. Yang, X. Chen, A. Alhammadi, Z. Zhang, C. Yuen, M. Debbah

submitted to IEEE Transactions on Wireless Communications, 2024. Under minor rivisions.

Robust Continuous-Time Beam Tracking with Liquid Neural Network Submitted

F. Zhu, **X. Wang**, C. Huang, R. Jin, Q. Yang, A. Alhammadi, Z. Zhang, C. Yuen, M. Debbah

submitted to IEEE Globecom 2024.

Additional Experience And Awards

2024: IEEE ComSoc Student Grant

2022: 2021-2022 Zhejiang University Scholarship

2022: 2021-2022 Academic Excellence Award from ZJU

2022: 2021-2022 Student Innovation and Entrepreneurship Award from ZJU

2023: 2022-2023 Zhejiang University Scholarship

2023: 2022-2023 Academic Excellence Award from ZJU

2023: 2022-2023 Student Leadership Award from ZJU

Technologies

Languages and Softwares: Python, C, Matlab

Services

Reviewer for Journals: IEEE Communication Letters, Physical Communication, Digital Communications and Networks, and Signal Processing

Reviewer for Conferences: IEEE ICCC 2024