

LIU Jinjian

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Education

Sichuan University	Chengdu, China
B. S. E. in Software Engineering GPA (overall): 3.76/4.00	Sep. 2021 - Jun. 2025
Chengdu Foreign Language School	Chengdu, China
Secondary School	Sep. 2015 - Jun. 2021

Research Experiences

Cylindrical Array Design to Optimize Polar-Azimuthal Direction-Finding Resolution	Sichuan University
Advisor: K. T. Wong and Y. I. Wu	Nov. 2023 - Mar. 2024

- This project targets cylindrical uniform arrays, proposing a closed-form design method by analyzing the trade-off between array volume and localization resolution.
- As a research member, I was primarily responsible for the derivation of Cramer-Rao bound expressions, plotting and some writing. I also contributed to the closed-form design method.

How Incident Source Influence Acoustic Sensor Direction-Finding Accuracy	Sichuan University
Advisor: K. T. Wong	Mar. 2024 - Present

- This project primarily investigated the impact of incident source angle deviation on direction-finding accuracy for three superimposed figure-8 sensors and a pressure sensor under different placement methods.
- As a research member, I was responsible for deriving the Fisher Information Matrix and Cramer-Rao Bound for three different array configurations. I also conducted MATLAB simulations, plotting and a little writing.

Range-Direction Transmit Beamforming for Wireless Power Transfer	Sichuan University
Advisor: Y. I. Wu, K. T. Wong and H. S. Mir	Oct. 2022 - Present

- This project aims to achieve wireless power transfer by using global optimization algorithms to adjust the weights and frequency offsets of multiple transmission antennas, concentrating the transmitted energy in a specific spatial region.
- As a research member, I was responsible for optimization simulations by utilizing various algorithms such as genetic algorithms and interior-point algorithm, among which cloud computing is used to address large-scale computing issues.

Publications

1. J. J. LIU, K. T. Wong, and Y. I. Wu, "Cylindrical Array Design to Optimize Polar-Azimuthal Direction-Finding Resolution", SIGNAL PROCESSING. (under review)

Awards & Honors (Selected)

"Zili-Zhidong" Comprehensive Scholarship	Dec. 2023
Comprehensive Scholarship of Sichuan University	Nov. 2022 & Nov. 2023
Excellent Student of Sichuan University	Nov. 2023
Excellent Student Leader of Sichuan University	Nov. 2022

Internship & Workshop

2023 NUS SoC Summer Workshop

May. 2023 - Jul. 2023, Singapore

Full funded by Sichuan University

Internship at IT Company Suncaper

Feb. 2024 - May. 2024, Chengdu

Social Activities

Sep. 2021-present, Core leader of the class, College of Computer Science, Sichuan University

Sep. 2021-Jun. 2022, Member in Student Union, Sichuan University

Sep. 2022-Jun. 2023, Associate President of “Cheng” Union, Department of Philosophy, Sichuan University

Skills

Languages: Native in Chinese, Fluent in English, with **IELTS score of 7.5**

Programming Language: MATLAB, Python, Java, LaTeX