

Xinnan Zhang

(+86) 173-9838-5357
zhangxinnan@mail.ustc.edu.cn

LinkedIn:

EDUCATION

University of Science and Technology of China

Graduate student in Electronic Engineering, *School of Information Science and Technology*
Supervised by Prof. Jian Li (University of Florida, IEEE Fellow)

Sept. 2021—Present

B.Eng. in Artificial Intelligence and Electronic Engineering, *School of the Gifted Young*

Sept. 2017—Jun. 2021

Overall GPA: 3.39/4.3 or 84.11/100

Enrolled in **AI Talent Class**

Mathematical analysis(87,88), Numerical analysis B(94), Parallel computing(92), Mathematical equation B(94), Probability and Mathematical Statistics B(95), Matrix analysis and application(92), Coding Theory(95), Combinatorial mathematics(89)

INTERSET

Optimization in signal processing, Deep learning in signal processing

PUBLICATIONS

- **Xinnan Zhang**, Yuanbo Cheng, Xiaolei Shang, Jun Liu. Optimal Mixed-ADC Arrangement for DOA Estimation via CRB using ULA, **ICASSP, 2023**
- **Xinnan Zhang**, Yuanbo Cheng, Xiaolei Shang, Jun Liu. Mixed-precision Arrangement for DOA Estimation via CRB under SLA by ADMM, **In submission for EUSIPCO, 2023**
- **Xinnan Zhang**, Yuanbo Cheng, Xiaolei Shang, Jian Li. Location Arrangement Optimization and DOA Estimation for Mixed-ADC using ULA, **to be submitted**

RESEARCH EXPERIENCE

Mixed-ADC Location Arrangement Optimization for DOA

Jun. 2022— Present

Research Assistant, USTC

Hefei, China

Advisor: Prof. Jian Li and Prof. Jun Liu

- Analyze the location arrangement of one-bit and high-precision ADCs via Cramér-Rao bound using a uniform linear array, and demonstrate the optimal mixed-ADC arrangement theoretically.
- Extend the location arrangement problem to the sparse array with any geometries and convert the problem to a 0-1 combinatorial optimization. The problem is efficiently solved by using ADMM algorithm.
- Study the location arrangement of mixed-ADC problem systematically based on the first work. Use a maximum likelihood based method to estimate the parameter by modifying the Sparse Parameters via Iterative Minimizing algorithm to mixed-ADC.

Fast DOA Estimation Algorithm Design (Project)

Mar. 2021— Present

Research Assistant, USTC

Hefei, China

Advisor: Prof. Jian Li

- Investigate and design fast DOA estimation algorithm in the context of MIMO technology.

One-Bit Beam-Steering Radar System Design

Sept. 2020— Mar. 2021

Research Assistant, USTC

Hefei, China

Advisor: Prof. Jian Li

- Consider the design of short-range beam-steering radar systems, including the system parameter design and the beamforming techniques at the transceiver.
- Use one-bit quantizations at the radar receiver and propose a robust beamforming algorithm based on negative diagonal loading strategies to reduce cost.
- Demonstrate that the proposed algorithm has better interference suppression capacities than the existed approaches in the literature.

TAT-QA: A Question Answering Benchmark on a Hybrid of Tabular and Textual Content in Finance

Jun. 2020—Nov.2020

Research Intern

Advisor: Fengbin Zhu, Prof. Wengqiang Lei (Next++, National University of Singapore)

- Using VUE program language to Develop a data anotation system for financial question answering dataset.

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Verb Duration Classification: Corpus Construction, Model Selection, and Empirical Investigation

Feb.2020—Jul.2020

Research Intern

Advisor: Yuanxin Xiang, Prof. Wengqiang Lei, Prof. Min-Yen Kan (Next++, National University of Singapore)

- Use Stanford CoreNlp to extract information from wiki data and gigaword according to some specific syntactic roles and construct a verb duration classification corpus.
- Leverage the corpus to demonstrate that neural modeling is more effective than traditional feature-based classifiers for duration classification.

SKILL

Programming	Python, Matlab, C/C++, Linux, Git, Pytorch, Latex
English	English(CET-6 432)

AWARDS

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|-----------------------------------------------------------------|------|
| • 2020 Microsoft Student Club Practice Space Outstanding Winner | 2020 |
| • Outstanding Student Scholarship in USTC | 2019 |
| • Endeavour Scholarships and Fellowships | 2019 |
| • Outstanding Student Officer | 2018 |
| • National Maths Competition, third class prize (Anhui) | 2018 |

ACTIVITIES

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- **Teaching assistant**, *University of science and technology of China*
Worked on undergraduate courses: *Signal and System*, *Mathematical equation B*, *Numerical analysis B*