Can Zheng

Email: zc331_@korea.ac.kr | **Research Interests:** AI/ML for Wireless Communications, OTFS.

Education

Korea University Seoul, South Korea
MS in Electrical Engineering Mar 2024. – Present

- **Advisor:** Chung G. Kang, IEEE Senior Member
- **Main Courses:** Information Theory, Satellite Communications, Detection and Estimation, Pattern Recognition and Machine Learning

Xi'an Jiaotong University Xi'an, China
BS in Information Engineering Aug. 2019 – Jul. 2023

- **Advisor:** Chen Tian
- **Main Courses:** Signal and Systems, Wireless Communication, Information Theory, Machine Learning

Publications and Under Review Manuscripts

[1] X. Wang, **C. Zheng** et al., "A Sparsity-Agnostic SL0 Channel Estimation Approach for OTFS Systems" (Published, co-first author), in *IEEE Communications Letters*, vol. 29, no. 5, pp. 1097–1101, May 2025

[2] **C. Zheng**, F. T. Debebe et al., "Joint Clustering and Uplink Power Control for Cell-Free mMIMO in LEO Satellite Networks" (accepted, first author), in *2025 International Conference on Ubiquitous and Future Networks (ICUFN)*

[3] **C. Zheng**, X. Wang et al., "ADMM-Based Delay-Doppler Domain Channel Estimation for OTFS Systems" (accepted, first author), in *IEEE 2025 Vehicular Technology Conference (VTC) - Fall*

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[4] **C. Zheng**, Ji G. He et al., "M^{2}BeamLLM: Multimodal Sensing-empowered mmWave Beam Prediction with Large Language Models" (submitted, first author), in *IEEE Journal on Selected Areas in Communications*

[5] **C. Zheng**, Ji G. He et al., "BeamLLM: Vision-Empowered mmWave Beam Prediction with Large Language Models", (under rebuttal, first author), in *IEEE 2025 Vehicular Technology Conference (VTC) - Fall*

[6] **C. Zheng**, C. G. Kang, "A Variational Bayesian Detector for Affine Frequency Division Multiplexing" (submitted, first author), in *IEEE Wireless Communication Letters*

Research Projects

Sensing-aided Beam Prediction using Large Language Models Dec. 2024 – Jun. 2025

- **Motivation:** Reduce beam searching overhead by leveraging sensing data for proactive beam prediction; improve prediction accuracy by exploiting the reasoning capability of large language models
- **Contributions:** Independently proposed the problem, derived the theoretical formulation, implemented the model, conducted simulations, and drafted the manuscripts
- **Outcomes:** One journal paper and one conference paper under review

Compressed Sensing-based Channel Estimation in the Delay-Doppler Domain Nov. 2024 – Present

- **Motivation:** Leverage the inherent sparsity of channels in the delay-Doppler domain to formulate channel estimation as a sparse recovery problem
- **Contributions:** Proposed the core idea, derived the mathematical framework, and co-authored the paper; simulations conducted by a collaborator
- **Outcomes:** One journal paper published; two conference papers under review

Other research area in progress: AFDM, LEO Satellite Communication, AI/ML for Positioning, etc

Work/ Research Experiences

Intel Lab Beijing, China
Wireless AI Software Engineering Intern Jun. 2025 – Present

- **Main Topic:** AI/ML for positioning
- Set up and configured AI software and hardware environments
- Executed and optimized AI model training iterations
- Independently developed AI/ML modules for wireless applications
- Contributed to the continuous development of 5G-advanced and pre-6G technologies

Ericsson Beijing, China
Radio System Developer Intern Feb. 2025 – Jun. 2025

- **Main Topic:** Uplink coverage enhancement
- Conducted system-level performance simulations of wireless products using an in-house MATLAB-based platform
- Assisted in simulation validation for 3GPP RAN4 standardization proposals
- Performed systematic evaluation of simulation results and composed technical analysis reports
- Continuously enhanced simulation platform functionalities to support new product development and pre-research initiatives

Great Bay University Dongguan, China
Visiting Student @ AISC LAB Dec. 2024 – Jan. 2025

- Collaborated with Prof. Jiguang He on ISAC and LLM for wireless communications
- Worked on vision empowered beam prediction with LLM
- Prepared a joint publication under review at IEEE VTC 2025 fall

Other Experiences

Awards and Scholarships

- Natural Science and Engineering Scholarship, Korea University, 2025
- Brain Korea 21 Scholarship, Korea University, 2024

Teaching Assistantship

- Teaching Assistant for "Mobile Communication Engineering," Korea University, Spring 2024

Peer Review Activities

- Reviewer for *IEEE Transactions on Vehicular Technology (TVT)*
- Reviewer for *IEEE Transactions on Mobile Computing (TMC)*

Skill Set

Languages: Mandarin Chinese, English (IELTS 6.5), Korean (TOPIK-6)

Programming Languages: Python, MATLAB, C

Software and Tools: LaTeX, Origin, Visio, Microsoft Office