

Namhyun Kim

E-mail: namhyunk@asu.edu

Research Interest

Beyond 5G/6G communication systems based on massive MIMO, Integrated sensing and communication (ISAC), AI/ML-based communications, Bayesian estimation, etc.

Education

Arizona State University (ASU), Tempe, AZ, USA Jan. 2025 — In progress
Doctor of Philosophy in **Electrical, Computer and Energy Engineering**
Advisor: [Prof. Ahmed Alkhateeb].

Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea Mar. 2021 — Feb. 2023
Master of Science in **Electrical Engineering** Cumulative GPA: 3.81/4.30
Dissertation: Location-Aware Downlink Beamforming with Marginal Training Overhead for MmWave FDD Massive MIMO Systems.
Advisor: [Prof. Junil Choi].

Yonsei University, Seoul, South Korea Mar. 2015 — Feb. 2021
Bachelor of Science in **Electrical Engineering** (High Hons.) Cumulative GPA: 4.04/4.30

Professional Experience

SK Telecom, Co., Ltd. Seoul, South Korea
Manager, LTE/5G Radio Access Network (RAN) Performance Improvement Group Jan. 2022 — Sep. 2023

- LTE/5G L1/L2/L3 Network planning, engineering, troubleshooting, and performance analysis.
- 64 TRX massive MIMO commercial verification test (with Samsung Electronics, Co., Ltd.).
- Skilled with Python/SQL/Kubernetes/Linux/MATLAB.

Publications

(Published)

- **N. Kim**, J. Han, J. Choi, A. Alkhateeb, C. -B. Chae and J. Park, “Integrated Sensing and Communications in Downlink FDD MIMO without CSI Feedback,” *IEEE Transactions on Wireless Communications*, 2025. [Link].
- **N. Kim**, I. P. Roberts and J. Park, “Splitting Messages in the Dark – Rate-Splitting Multiple Access for FDD Massive MIMO without CSI Feedback,” *IEEE Transactions on Wireless Communications*, 2025. [Link].

(Conference)

- **N. Kim**, and J. Park, “Integrated Sensing and Communications in FDD MIMO Without CSI Feedback: Towards FDD MIMO ISAC,” *2025 IEEE International Symposium on Information Theory (ISIT)*, Ann Arbor, MI, USA, 2025, pp. 1–6. [Link].
- **N. Kim**, J. Han and J. Park, “Integrated Sensing and Communications in FDD MIMO Without CSI Feedback: Towards FDD MIMO ISAC,” *2024 22nd International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt)*, Seoul, South Korea, 2024, pp. 132–137. [Link].

(Preprint)

- **N. Kim**, S. Alikhani, and A. Alkhateeb, “LWM-Spectro: A foundation model for wireless baseband signal spectrograms,” submitted to *Proc. IEEE Int. Conf. Commun. (ICC)*, 2026.

Projects

LTE Link-Level Simulation Seoul, South Korea
Intelligent & Secure underwater CommunicaTion, (InSeCT), KRIT Sep. 2023 — Apr. 2024

- Implemented the signal processing chain in an OFDM receiver.
- Derived post-equalization SINR model for a CFO-impaired OFDM transmission.
- Interconnected post-equalization SINR and BICM capacity.

5G Shared Network Commercial Deployment

SK Telecom

Daejeon, South Korea

Sep. 2022 — Aug. 2023

- Expand 5G coverage in Korea via the concept of shared network (with KT, LGU).
- Integrated and optimized network equipment while addressing security concerns related to shared infrastructure.
- Managed traffic load to maintain service quality with careful coordination in RAN.

Undergraduate Capstone Project

School of Electrical Engineering, Yonsei University

Seoul, South Korea

Mar. 2020 — Aug. 2020

- Implemented during the COVID-19 period under the leadership of the department.
- Developed a smart access control system combining RFID and temperature measurement sensors in campus.

Scholarships & Awards

Global Korea Scholarship: Study Abroad Scholarship Program

Grant amount: (USD \$80K + airfare) per year for 2 years from Sep. 2025.

NIIED, Korean Government

2025-2026

Graduate Student Academic Excellence Scholarship

The Wooyang Foundation merit-based scholarship is one of the most prestigious scholarship in South Korea.

Wooyang Foundation

2021-2022

Korean Government-funded Student

A master's student fully funded by Korean government scholarships.

KAIST

2021-2022

Department Chair Commendation

Recognized for successfully completing tutoring for international students at Songdo international campus.

Dept. of EE., Yonsei University

Feb. 2021

Academic Excellence Award

Semester Honors (Spring 2016, Fall 2018, Spring 2019), High Honors (Spring 2020), Highest Honors (Fall 2019).

Yonsei University

Graduation with Distinction

Graduation with High Honors, placing in the top 3% of graduates in electrical engineering major.

Yonsei University

Feb. 2021

Teaching and Mentoring Experience

Academic Tutor for International Students

EE Honor Society Program, Dept. of Electrical Engineering, Yonsei University

Songdo, Incheon, South Korea

Sep. 2019 — Feb. 2021

- Tutored in Engineering Mathematics and Engineering Physics, guiding a total of 21 students.
- The tutoring were conducted at the request of international students interested in major subjects, and I helped most participants achieve good grades.

Graduate Teaching Assistant

Course: EE528: Engineering Random Processes, KAIST

Daejeon, South Korea

Sep. 2021 — Feb. 2022

- Served as a teaching assistant for the class of Prof. Junil Choi.

Skills

- **Programming:** Python, C/C++, MATLAB.
- **Software:** Linux, Kubernetes.
- **Soft Skills:** Communication skills, Adaptability, Problem solving.