

Namhyun Kim

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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
Doctor of Philosophy in **Electrical, Computer and Energy Engineering**
Advisor: [Prof. Ahmed Alkhateeb].

Jan. 2025 — In progress

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

Mar. 2021 — Feb. 2023
Cumulative GPA: 3.81/4.30

Yonsei University, Seoul, South Korea
Bachelor of Science in **Electrical Engineering** (High Hons.)

Mar. 2015 — Feb. 2021
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. 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.