CV
Jan. 14, 2026

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 — 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. (Posted: 2025/08/27) [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. (Posted: 2025/01/23) [Link].
- J. Han, **N. Kim** and J. Park, "Reducing Latency by Eliminating CSIT Feedback: FDD Downlink MIMO Transmission for Internet-of-Things Communications," *IEEE Internet of Things Journal*, Early Access, 2025. (Posted: 2025/12/24) [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. (Posted: 2025/06/22) [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. (Posted: 2024/10/21) [Link].

(Preprint)

- **N. Kim**, S. Alikhani, and A. Alkhateeb, "LWM-Spectro: A Foundation Model for Wireless Baseband Signal Spectrograms," *arXiv preprint* arXiv:2601.08780, 2026. (Posted: 2026/01/13) (Self-supervised foundation model for wireless I/Q spectrograms with strong transfer to downstream tasks.) [Link].

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 a post-equalization SINR model for CFO-impaired OFDM transmission.
- Interconnected post-equalization SINR and BICM capacity.

5G Shared Network Commercial Deployment Daejeon, South Korea
SK Telecom Sep. 2022 — Aug. 2023

- Expanded 5G coverage in Korea via the shared-network concept (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 Seoul, South Korea
School of Electrical Engineering, Yonsei University 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 NIIED, Korean Government
A prestigious national scholarship providing funding support to pursue graduate studies abroad. 2025-2026

Graduate Student Academic Excellence Scholarship Wooyang Foundation
The Wooyang Foundation merit-based scholarship is one of the most prestigious scholarships in South Korea. 2021-2022

Korean Government-funded Student KAIST
A master's student fully funded by Korean government scholarships. 2021-2022

Department Chair Commendation Dept. of EE., Yonsei University
Recognized for successfully completing tutoring for international students at Songdo international campus. Feb. 2021

Academic Excellence Award Yonsei University
Semester Honors (Spring 2016, Fall 2018, Spring 2019), High Honors (Spring 2020), Highest Honors (Fall 2019).

Graduation with Distinction Yonsei University
Graduation with High Honors, placing in the top 3% of graduates in electrical engineering major. Feb. 2021

Teaching and Mentoring Experience

Academic Tutor for International Students Songdo, Incheon, South Korea
EE Honor Society Program, Dept. of Electrical Engineering, Yonsei University Sep. 2019 — Feb. 2021

- Tutored in Engineering Mathematics and Engineering Physics, guiding a total of 21 students.
- Tutoring sessions were conducted at the request of international students, and most participants achieved strong grades.

Graduate Teaching Assistant Daejeon, South Korea
Course: EE528: Engineering Random Processes, KAIST 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, adaptability, problem-solving.