CURRICULUM VITAE

Jinhyeok Park
Georgia Institute of Technology ECE Ph.D. Student
E-mail: jpark3263@gatech.edu

OBJECTIVE: To gain experience in industry through an internship in a leading company.

RESEARCH INTERESTS: RF System, MIMO, Wireless Sensing, Artificial Intelligence, Vision

EDUCATION EXPERIENCE

Ph.D., Electrical and Computer Engineering, Georgia Tech, USA Aug. 2024 – Present
Expected graduation: August 2028
GPA: 3.83/4.0
Advisor: Prof. Saibal Mukhopadhyay
Thesis topic: Learning-Based Methodologies for Energy-Efficient Closed-loop Sensing and Perception
Projects: CogniSense – Cognitive Multispectral Sensors
- Supported by SRC (Semiconductor Research Corporation) and Intel.
- Design dynamic reconfiguration of RF front-end and DSP pipeline in FMCW mmWave sensor based on task-driven feedback, maximal feature quality at minimal sensing power

M.S., Electrical Engineering, KAIST, Korea Mar. 2021 – Feb. 2023
GPA: 3.59/4.0
Advisor: Prof. Songcheol Hong
Dissertation: Bidirectional VGA and Vector Modulator for 5G Communication Beamforming IC
Projects: Multi-band true-time-delay phase shifter and bidirectional VGA for 5G wireless communication
- Supported by Samsung Electronics Mobile Experience
- Design of a 23-35 GHz wideband bidirectional VGA, with measured gain of 6-dB with a 3° rms phase errors, and the maximum dc power consumption is 23mW.

Broadband beamforming IC for mm-wave 5G/B5G communication
- Supported by Samsung Electronics System LSI
- Design 24-30 GHz wideband PA, with measured gain 19.8-21.7-dB, 15.6-17.7-dBm OP1dB, 17.4-19.3-dBm Psat, 20.4-31.4% PAE, and 7.8GHz 3dB bandwidth.

B.S., Electrical Engineering, Sungkyunkwan University, Korea Mar. 2014 – Feb. 2021
GPA: 3.77/4.0
Relevant coursework: Circuit Theory (I, II), Electronic Circuits (I, II), Physical Electronics, Semiconductor Electronics, Analog/Digital Circuit Lab

WORK EXPERIENCE

RF Engineer., Samsung Electronics, RF Development Team, Korea Mar. 2023 – Apr.2024
Advisor: Dr. Hyun-chul Park
Projects: 28/39 GHz phased-array transceiver IC for the mobile device application
- Full path transceiver verifications and measurements
- Design RX feedback blocks (power detector, attenuator, and mixer)

60GHz FMCW radar for short-range detection in mobile device
- Design BIST (Built-In-Self-Test) system (SPDT switch, attenuator, loopback path)

Research Intern., Samsung Electronics, RF Development Team, Korea Jul. 2022 – Aug.2022
Advisor: Dr. Hyun-chul Park
Projects: Fabrication comparison between GF22N FDSOI and Samsung 22N FDSOI
- EM simulations and characterizations for passive devices at mm-wave frequencies
- TEG Design for TRL calibration in GF22N FDSOI fabrication

JOURNAL PUBLICATIONS

[1] **J. Park,** S. Hong. "Wideband Bidirectional Variable Gain Amplifier for 5G Communication." *IEEE Microwave and Wireless Technology Letters* (2023).

PEER-REVIEWED CONFERENCE PUBLICATIONS

[2] **J. Park** et al., "Real-Time Range-Aware Adaptation Framework for Low-Power FMCW Radar," 2026 IEEE/MTT-S International Microwave Symposium-IMS, **submitted**

[3] **J. Park,** S. Sharma et al., "Real-Time Front-End Adaptation for Energy-Efficient mmWave Radar Sensor," *IEEE Sensors*, Vancouver, 2025.

[4] S. Sharma, **J. Park**, et al., "LUGA: Lightweight Uncertainty-Guided Sensing Resolution Adaptation for Energy Efficient Radar Processing" *IEEE Sensors, Vancouver*, 2025.

[5] G. Lee, J. Lee, **J. Park**, S. Hong, "A 24-30GHz Wideband Power Amplifier with High-Coupling-Coefficient Transmission Line Transformer and Staggered Tuning." *2022 14th Global Symposium on Millimeter-Waves & Terahertz (GSMM)*. IEEE, 2022.

PRESENTATIONS

[6] **J. Park**, S. Hong, "Bidirectional Active Vector Modulator Using Impedance-Invariant Variable Gain Amplifier" *Korean Institute of Electromagnetic Engineering and Science (KIEES)*, Republic of Korea, 2022.

AWARDS AND HONORS

Scholarships

- Georgia Tech ECE Fellowship — Aug. 2024 – May. 2025
- Samsung Semiconductor Scholarship — Mar. 2021 – Feb. 2023
- Samsung Science Talent Scholarship — Mar. 2014 – Feb. 2021

Awards

- Best Poster Award, Cognisense Annual Review, SRC, USA — Oct. 2025
- Best Paper Award, Radio Science and Communication Conference, KIEES — Nov. 2022
- Best Paper Award Finalist, GSMM, IEEE — May. 2022
- Dean's List Award, Sungkyunkwan University, Korea — Apr. 2019
- Excellence Tutor Award, Sungkyunkwan University, Korea — Dec. 2018

TECHNICAL SKILLS

Programming Language

Python

- Designed RF front-end adaptation pipeline in FMCW radar based on task-driven feedback
- Digital signal processing (FFT, CFAR, Capon)
- Machine Learning (Pytorch, Uncertainty feedback, SSM)

C++

- Commercial mmwave sensor module real-time demonstration

Computational & Design Tools

Advanced Design System (ADS), Keysight

- Designed 24-40 GHz VGA and 24-30 GHz PA.
- Used Samsung 28-nm bulk and FDSOI CMOS process.

Measurement Skills

- Vector Network Analyzer, Vector Signal Generator, Signal Analyzer, mm-Wave component RF probing skills.