

Eunji Yoo

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EDUCATION

- 2025 – Present Master of Science Candidate in Electronic Engineering
 Seoul National University of Science and Technology, Seoul, South Korea
- 2021 – 2025 Bachelor of Science in Electronic Engineering
 Seoul National University of Science and Technology, Seoul, South Korea

RESEARCH EXPERIENCES

Research Assistant, Dept. of Electronic Engineering, Seoul National University of Science and Technology. Advisor: Jae-Won Nam (2023 ~ Present)

- Mixed circuit design automation
- RF component (transformer & inductor) design
- Physical attack detection sensor for hardware security
- Programming Language : Verilog HDL, Matlab, Python, SKILL
- EDA Tools : Cadence Virtuoso/EMX, Mentor Calibre, Ansys HFSS, Altium Designer

Tape-out

- 2025.12. TSMC 180nm BCD, SRAM-based PUF ($3 \times 2 \text{ mm}^2$): EM attack detector, Top integration
- 2025.07. TSMC 180nm MS RF G, SRAM-based PUF ($2 \times 1.45 \text{ mm}^2$) : Temperature sensor
- 2024.09. Samsung 28nm FD-SOI, Qubit controller ($4 \times 4 \text{ mm}^2$) : Transformer
- 2024.06. Samsung 28nm LPP, Qubit controller ($4 \times 4 \text{ mm}^2$) : Gm-C LPF
- 2023.11. My chip (ETRI, SNU, DIGIST) 500nm, Energy Harvesting ($1.9 \times 1.9 \text{ mm}^2$)

HONORS / AWARDS

- Dean's Award (Best Capstone 2024 Award Winners), Seoul National University of Science and Technology, College of Information and Communication, Feb. 2025.

LIST OF PUBLICATIONS

- **E. Yoo**, H. Yoo, Y. Kim, S. -H. Kim, G. Lee, J.-Y. Park, J.-W. Nam, "Design of Analog Front-End for the Wideband Wireline Receiver", *the 33rd Korean Conference on Semiconductors (KCS)*, Jan. 2026
- H. Yoo, Y. Kim, S. -H. Kim, **E. Yoo**, G. Lee, J.-Y. Park, J.-W. Nam, "Time-Interleaved Nyquist and Delta-Sigma Current-Steering DACs for Wireless Transmitter", *the 33rd Korean Conference on Semiconductors (KCS)*, Jan. 2026
- S. -H. Kim, H. Yoo, F. Mauludin, Y. Kim, **E. Yoo**, G. Lee, J.-Y. Park, J. Kim, J.-W. Nam, "8-way FDM-based 500 MHz BW DDFS for a Baseband Qubit Controller", *the 33rd Korean Conference on Semiconductors (KCS)*, Jan. 2026
- H. Yoo, M. F. Mauludin, Y. Kim, S. -H. Kim, **E. Yoo**, J.-Y. Park, J. Kim, J.-W. Nam, "MASH Digital Delta-Sigma Modulators for the CMOS Qubit Controller", *IEEE International Workshop on Quantum Computing: Circuits Systems Automation and Applications (QC-CSAA)*. July 9, 2025.
- M.-H Jeon, **E. Yoo**, J.-W. Hyun, J. Lee, J.-P. Hong, J.-W. Nam, " Measurement Driven Standard CMOS Photodiode Modeling and Layout Automation", *Summer Annual Conference of IEIE*, Jeju, June. 2025.
- S. -H. Kim, Y. Kim, **E. Yoo**, G. Lee, S. Lee, J.-Y. Park, J. Kim, J.-W. Nam, " Design of Pulse Shaping Module for Multiple Qubit Control Pulse Generation ", *Summer Annual Conference of IEIE*, Jeju, June. 2025.
- **E. Yoo**, J.-W. Hyun, J.-W. Nam, "ML-based Design Optimization for Dickson Charge Pump", *the 7th ISE Winter Conf.*, Buyeo, Jan. 2025.
- **E. Yoo**, C.-Y. Song, J.-W. Nam, "P/N Junction-Based Solar Cell for Energy Harvesting Module", *Summer Annual Conference of IEIE*, Jeju, Jun. 2024.
- C.-Y. Song, **E. Yoo**, J.-W. Nam, "Implementation of a Capacitor-based DC-DC Converter", *Summer Annual Conference of IEIE*, Jeju, Jun. 2024.

TEACHING EXPERIENCE

- **Teaching Assistant**, Dept. of Electronic Engineering, Seoultech.
- Electronic Circuit (1), (2), 2025.
- Integrated Circuit, Spring 2025.
- Electronic Circuit (1), (2), 2024.

TRAINING ACTIVITIES

- 2024.08.27-08.30, [KIRD Education] Advanced semiconductor design (PA, LNA).
- 2024.08.20-08.23, [KIRD Education] Advanced semiconductor design (LC VCO, VGA).
- 2023.07.31-08.04, [KIRD Education] Advanced semiconductor design (VGA).