

Yubin Choi (최유빈)

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RESEARCH INTERESTS

Cyber-Physical Systems, Wireless Communications and Networking, AI/ML for Communication, IoT

EDUCATION

- **University of California, Riverside (UCR)** Sep 2026 – Ongoing
California, USA
Ph.D. Student in Electrical and Computer Engineering (ECE), advised by Prof. Hang Qiu
 - Research Area: Vehicular Networks, C-V2X, O-RAN, and Edge Computing.
- **Seoul National University (SNU)** Mar 2024 – Feb 2026
Seoul, South Korea
M.S. in Electrical and Computer Engineering (ECE), advised by Prof. Saewoong Bahk
 - Research Area: Mobile Network and Beyond-5G Communication.
 - Overall GPA: 4.03/4.30
- **Yonsei University** Mar 2021 – Feb 2024
Seoul, South Korea
B.S. in Electrical and Electronics Engineering (EEE)
 - Overall GPA: 3.83/4.30
- **Chungnam National University** Mar 2017 – Feb 2021
Daejeon, South Korea
Major in Mechatronics Engineering
 - Two-year leave for mandatory military service
 - Transfer to Yonsei University

PUBLICATIONS

International Journals

- [J.1] Dongrak Choi, Yubin Choi, Yonghoon Jeong, Jeongyeup Paek, and Saewoong Bahk, ***D²-PLC: Holistic Design and Implementation of High-Datarate Duplex DC Power Line Communication Network***, *IEEE Internet of Things Journal (IoT-J)*, vol. 12, no. 21, Nov. 2025. [\[PDF\]](#)

International Conferences

- [C.1] Yubin Choi, Yunseo Nam, Dongrak Choi, Jeongyeup Paek, and Saewoong Bahk, ***UniQ: A Universal-Rate Quantization Network for Beyond-5G Autoencoder-Based CSI Feedback***, in *Proc. IEEE Global Communications Conference (GLOBECOM)*, 2026. [\[PDF\]](#)
- [C.2] Dongrak Choi, Yongjae Yoo, Yubin Choi, Jeongyeup Paek, and Saewoong Bahk, ***Escaping from the Shadow: Bottleneck-Aware UAV Placement for High-Throughput Relaying***, in *Proc. IEEE Vehicular Technology Conference (VTC)*, 2026 spring. [\[PDF\]](#)
- [C.3] Yubin Choi, Yunseo Nam, and Saewoong Bahk, ***Intelligent Channel State Information Feedback Using Variable-Rate Autoencoder***, in *Proc. International Conference on ICT Convergence (ICTC)*, 2025. [\[PDF\]](#)
- [C.4] Dongrak Choi, Yonghoon Jeong, Yubin Choi, and Saewoong Bahk, ***Demo: A Programmable High-Throughput Duplex DC-PLC Testbed for Power and Data Integration***, in *Proc. IEEE International Conference on Network Protocols (ICNP)*, 2025. [\[PDF\]](#)

STANDARDIZATION ACTIVITIES

- **3GPP TSG-RAN WG3 Delegate** Dalian, China
May 2026
Contributed to 6G RAN Architecture (TR 38.760-3), Meeting #132,
 - Proposed expanding TR 38.760-3 resilience scope to cover AI/ML unavailability and defining new AI management/ISAC RAN functions at 3GPP RAN3#132.

RESEARCH EXPERIENCE

- **Network Laboratory (NETLAB), SNU** Jul 2023 – Aug 2023
Seoul, South Korea
Undergraduate Research Intern (Advisor: Prof. Saewoong Bahk)
 - MPTCP (Multi-Path Transmission Control Protocol)
- **Robotic And Mobile networks Laboratory (RAMO), Yonsei University** Jan 2023 – Jun 2023
Seoul, South Korea
Undergraduate Research Intern (Advisor: Prof. Seong-Lyun Kim)
 - Multi-Access Edge Computing (MEC), Remote Robot Control, Computer Vision, Low-Latency Communication

ACADEMIC SERVICE

- **Technical Program Committee Member, IEEE International Conference on Communications** Dec 2025
IEEE Communications Society
 - Review conference paper submissions in the Wireless Communications track, contributing to the technical program organization.
- **Ad hoc Reviewer, IEEE Internet of Things Journal** Mar 2026 – May 2026
IEEE Sensors Council, IEEE Communication Society, IEEE Computer Society, and IEEE Signal Processing Society
 - Reviewed manuscripts on request.
- **Ad hoc Reviewer, IEEE Transactions on Vehicular Technology** Aug 2026
IEEE Vehicular Technology Society
 - Reviewed manuscripts on request.

PROJECTS

- **URAN (Ultra Reliable Aerial Network) for UAM Operations** Aug 2024 – Dec 2024
Ministry of Science and ICT ITRC Project
 - Developed a UAV placement design optimizing relay throughput.
- **Capstone Design** Spring 2023
advised by Prof. Seong-Lyun Kim @ RAMO
 - Construction of a robot remote control system based on MEC using YOLOv5.
- **PYNQ-Based FPGA-ARM Integrated Game System** Fall 2022
Introductory Digital Labs (EEE3313.01), Yonsei University
 - A multi-functional embedded system integrating Verilog, ARM, audio, and graphics for a Galaga-style shooting game.

TEACHING EXPERIENCE

- **Teaching Assistant** Sep 2025 – Dec 2025
Creative Engineering Design (400.018), Department of ECE, SNU
 - Guided interactive sessions on Arduino programming and Raspberry Pi OS.
- **Tutor** Sep 2023 – Dec 2023
Tutoring Program (learnus-161), Center for Teaching and Learning Innovation, Yonsei University
 - Provided guidance on Control Engineering (EEE3310.02-00).

PATENTS

- **Drone Relay Placement Apparatus for High-Quality Data Transmission in Cellular Shadow Areas** 2024
S. Park, J. Baek, Y. Yoo, D. Choi, and Y. Choi
 - KR 10-2024-0195602 (filed)

HONORS AND AWARDS

- **Academic Excellence Award** Spring 2023
Yonsei University
- **Best Paper Award: Construction of a Robot Remote Control System Based on MEC using YOLOv5** Summer 2023
Korean Institute of Communications and Information Sciences (KICS)

SKILLS

- **Programming Languages:** Python, C/C++, LaTeX, Verilog
- **ML Frameworks:** PyTorch, TensorFlow
- **Modeling:** Blender, PTC Creo, SketchUp
- **Simulation Tools:** MATLAB, NVIDIA Sionna
- **Experiment Tools:** Open Air Interface, iPerf3, Wireshark, Linux tc, Nuvoton N76E003 MCU, Arduino, Raspberry Pi
- **Natural Languages:** Korean (Native), English (Fluent)

OTHER EXPERIENCE

- **Conscripted Firefighter, National Fire Agency** *Aug 2019 – Apr 2021*
Emergency Medical Services Unit, Fire Rescue Unit Cheongju, South Korea
 - Completed mandatory military service as a conscripted firefighter under the Conscripted Firefighters Agency.
- **Olympic Broadcasting Services (OBS)** *Jan 2018 – Mar 2018*
Broadcast Training Programme Member PyeongChang, South Korea
 - Participated in the Broadcast Training Programme for the 2018 PyeongChang Winter Olympics, supporting live production and media operations.