

Yonghoon Jeong

Lecturer | Officer (Ensign)

Department of Cyber Science, Republic of Korea Naval Academy,

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CONTACT

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RESEARCH INTERESTS

Low Power Wide-Area Network (LPWAN)

Wireless Communication System

Wireless Networks / Sensing

Signal Processing

EDUCATION

M.S. in Electrical and Computer Engineering

2024 – 2026

- Seoul National University, Seoul, South Korea
- Advisor: Prof. Saewoong Bahk

B.S. in Electronics and Communications Engineering

2018 – 2023

- Kwangwoon University, Seoul, South Korea

RESEARCH EXPERIENCES

Republic of Korea Naval Academy

2026 – Present

- Lecturer (Faculty Member), Department of Cyber Science, Republic of Korea Naval Academy
- Officer (Ensign), Republic of Korea Navy
- Serving as part of mandatory military service through May 2029

Seoul National University (SNU)

2024 – 2026

- Researcher
- Institute of New Media and Communications (INMC)

Electronics and Telecommunications Research Institute (ETRI)

2023

- Researcher
- Smart Manufacturing Application Laboratory
- Developed the virtualization model for DMAC Integrated AI Hardware

Korea Advanced Institute of Science and Technology (KAIST)

2022

- Research Intern
- Unmanned Systems Research Group (USRG)
- Advisor: Prof. David Hyunchul Shim

PUBLICATIONS

International Journals

- **Yonghoon Jeong**, Youngwook Son, and Saewoong Bahk, “On the Interference Resilience of Non-Linear Chirp Modulation for LoRa: An Analytical Insight into Energy Scattering Effect”, *IEEE Communications Letters*, vol. 30, pp. 2238–2242, Jun. 2026.
- 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*, vol. 12, pp. 45325–45340, Nov. 2025.
- **Yonghoon Jeong** and Youngseok Choi, “Diffusion-Phys: Noise-Robust Heart Rate Estimation from Facial Videos via Diffusion Models”, *Biomedical Engineering Letters*, vol. 15, pp. 575–585, Apr. 2025.
- “Hyperbolic Frequency Shift Chirp Modulation for Underwater Acoustic Communications”, in preparation.

International Conferences

- Dongrak Choi, **Yonghoon Jeong**, Yubin Choi, and Saewoong Bahk, “Demo: A Programmable High-Throughput Duplex DC-PLC Testbed for Power and Data Integration”, *IEEE ICNP 2025 demo*, Seoul, Korea, Oct. 19-22, 2025.

Domestic Conferences

- **Yonghoon Jeong**, Saewoong Bahk, “A Study on Direct Current Power Line Communication (DC-PLC) with Applications in Automotive, Maritime, and Aviation,” *The Fall Conference of the Korea Institute of Communications and Information Sciences (KICS)*, Gyeongju, Korea, November 20-22, 2024.
- **Yonghoon Jeong**, “Development of Non-contact Heart Rate Measurement Technology Based on Facial Video,” *The Conference of the Korean Institute of Information Scientists and Engineers (KIISE)*, Jeju, Korea, June 23-25, 2021.

AWARDS / SCHOLARSHIP

Scholarship Recipient	2022–2023
• Korea Scholarship Foundation for the Future Leaders (KOSFFL 52th)	
Excellence Paper Awards	2021
• Korea Computer Conference (KCC) 2021	
Top Prize (University President’s Award)	2020
• Capstone Design, organized by Seoul	
Scholarship Recipient	2020
• Samsung Scholarship Foundation	
Dean’s List	2020
• Highest GPA	

PROGRAMMING SKILLS

Programming Languages: C, C++, Python, MATLAB

Frameworks & Libraries: ROS, ROS2, TensorFlow, PyTorch

Simulation Tools: MATLAB/Simulink, ns-3

Development Tools: Linux, Git, Docker

TEACHING EXPERIENCE

Creative Engineering Design , Prof. Sae-woong Bahk	2024
Electronic Circuits Experiment 1 , Emeritus Prof. Young-chul Chung	2023
Electronic Circuits Experiment 2 , Emeritus Prof. Young-chul Chung	2023
Electronic Circuits Experiment 1 , Prof. Young-seok Choi	2022