




Seongjae Lee

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EDUCATION

POSTECH, Pohang University of Science and Technology <i>Ph.D. student, major in Medical Science and Engineering</i>	Feb. 2024 – Present Pohang, RoK
POSTECH, Pohang University of Science and Technology <i>Bachelor's Degree (Summa Cum Laude, GPA 4.03/4.3), Convergence IT Engineering</i>	Feb. 2020 – Feb. 2024 Pohang, RoK
École Polytechnique Fédérale de Lausanne (EPFL) <i>Exchange Program, Life Sciences (SV)</i>	Jan. 2023 – Jul. 2023 Lausanne, Switzerland
Seoul National University <i>Exchange Program, Computer Science & Engineering</i>	Dec. 2021 – Feb. 2022 Seoul, RoK

PUBLICATIONS

Automated Arrhythmia Classification System: Proof-of-Concept With Lightweight Model on an Ultra-Edge Device <i>IEEE Access</i>	Oct. 2024
Developed a lightweight model for arrhythmia classification on ultra-edge devices, advancing edge computing.	
Shuffled ECA-Net for stress detection from multimodal wearable sensor data <i>Computers in Biology and Medicine</i>	Oct. 2024
Proposed a novel Shuffled ECA-Net model for multimodal wearable stress detection.	

WORK EXPERIENCE

High School External Instructor <i>Pohang Youngshin High School</i>	Mar. 2024 – Present Pohang-si, RoK
Teach <i>Advanced Life Science</i> and <i>Life Science Laboratory</i> as part of an advanced science class program.	
Teaching Assistant <i>[EGN4932] Global Design Thinking in Engineering (University of Florida)</i>	June 2024 – July 2024 Pohang-si, RoK
Assisted in teaching the course under the guidance of Prof. Andrea Goncher and Gloria Kim.	
Research Assistant Intern, Strategy & Finance Team <i>Bagelcode Inc.</i>	June 2021 – Sep. 2021 Seoul, RoK
Assisted in preliminary listing review requests, introduced ESOP, and participated in building investor relations and a new business strategy.	

VOLUNTEER EXPERIENCE

Student Representative, CiTE Department <i>POSTECH</i>	Jan. 2022 – Dec. 2022 Pohang-si, RoK
Residential College Advisor <i>POSTECH Residential College</i>	Jan. 2022 – Dec. 2022 Pohang-si, RoK

AWARDS AND HONORS

ASAN Foundation Scholarship in Biomedical Engineering Feb. 2025
ASAN Foundation

Awarded to top-tier students in Biomedical Engineering in Korea, with an annual grant of 20M KRW up to 4 years.

1st Place, University Venture Investment Competition Korea (UVICK) Dec. 2024
Ministry of SMEs and Startups, Korea

POSTECH won first place and will represent Korea at the VCIC Global Finals in April 2025.

Kwanjeong Educational Foundation Graduate Scholarship Mar. 2024
Kwanjeong Educational Foundation

Selected as a recipient for one of the most prestigious graduate fellowships in Korea, supporting up to 12M KRW annually.

PROUD POSTECHIAN Award, Highest Honor Feb. 2024
President of POSTECH

For developing essential skills and competencies through active extracurricular participation.

Next Generation Leader Scholarship Feb. 2022
Korea Foundation For Advanced Studies

Merit-based scholarship for 20 top national youths for academic excellence and leadership potential.

National Scholarship of Excellence (Science Eng.) Feb. 2022
Korea Scholarship Foundation

Government-funded scholarship fostering future professionals in science and technology.

Scholarship of ICT Creative Consilience Program Feb. 2020
Ministry of Science and ICT, Korea

Full funding (12M KRW) to foster creative, convergent talents.

PROJECTS

Pain Related Spinal Cord Neuron Activity Decoding using Deep Learning Mar. 2024 – Present
Developing deep learning model for decoding pain related spinal cord neuron activity.

Personalized PPGR Detection Algorithm and LLM-based Nutrient Management System Sep. 2024 – Present
Developing personalized PPGR detection algorithm and nutrient management system.

VCIC Global Finals Aug. 2024 – Apr. 2025
Represented POSTECH at VCIC Global Finals. Won first place in UVICK, advancing to global finals.

Apple Developer Academy @ POSTECH - 1st Foundation Program Apr. 2024 – Jun. 2024
Challenge-based app development using Swift, SwiftUI, and Xcode in a cross-functional team.

Real-Time Arrhythmia Classification System Aug. 2023 – Feb. 2024
Developed lightweight model on NRF52840 edge device for real-time arrhythmia classification.

BRIDGE: Vocational Training Program for Koryoin Feb. 2023 – Jan. 2024
Designed a vocational education program for Koryeo immigrants in Jeon-buk Province.

FPGA-based Edge Computing System Aug. 2022 – Feb. 2023
Designed FPGA-based edge computing system for arrhythmia detection using PYNQ-Z2 board.