




# Seongjae Lee

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## EDUCATION

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

## WORK EXPERIENCE

<b>High School External Instructor</b> <i>Pohang Youngshin High School</i>	Mar. 2024 – Present Pohang-si, RoK
Teach 'Advanced Life Science' and 'Life Science Laboratory' as part of an advanced science class program.	
<b>Teaching Assistant</b> <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.	
<b>Research Assistant Intern, Strategy &amp; Finance Team</b> <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

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

## PUBLICATIONS

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

## AWARDS AND HONORS

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<b>ASAN Foundation Scholarship in Biomedical Engineering</b> <i>ASAN Foundation</i>	Feb. 2025
Awarded to top-tier students in Biomedical Engineering in Korea, with an annual grant of 20M KRW up to 4 years.	
<b>1st Place, University Venture Investment Competition Korea (UVICK)</b> <i>Ministry of SMEs and Startups, Korea</i>	Dec. 2024
POSTECH won first place and will represent Korea at the VCIC Global Finals in April 2025.	
<b>PROUD POSTECHIAN Award, Highest Honor</b> <i>President of POSTECH</i>	Feb. 2024
For developing essential skills and competencies through active extracurricular participation.	
<b>Next Generation Leader Scholarship</b> <i>Korea Foundation For Advanced Studies</i>	Feb. 2022
Merit-based scholarship for 20 top national youths for academic excellence and leadership potential.	
<b>National Scholarship of Excellence (Science Eng.)</b> <i>Korea Scholarship Foundation</i>	Feb. 2022
Government-funded scholarship fostering future professionals in science and technology.	
<b>Scholarship of ICT Creative Consilience Program</b> <i>Ministry of Science and ICT, Korea</i>	Feb. 2020
Full funding (12M KRW) to foster creative, convergent talents.	

## PROJECTS

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<b>Pain Related Spinal Cord Neuron Activity Decoding using Deep Learning</b> Developing deep learning model for decoding pain related spinal cord neuron activity.	Mar. 2024 – Present
<b>LLM-based Glucose Index Prediction System</b> Developing LLM-based glucose index prediction system for diabetic and non-diabetic individuals.	Nov. 2024 – Present
<b>Personalized PPGR Detection Algorithm and LLM-based Nutrient Management System</b> Developing personalized PPGR detection algorithm and nutrient management system.	Sep. 2024 – Present
<b>VCIC Global Finals</b> Represented POSTECH at VCIC Global Finals. Won first place in UVICK, advancing to global finals.	Aug. 2024 – Apr. 2025
<b>Apple Developer Academy @ POSTECH - 1st Foundation Program</b> Challenge-based app development using Swift, SwiftUI, and Xcode in a cross-functional team.	Apr. 2024 – Jun. 2024
<b>Real-Time Arrhythmia Classification System</b> Developed lightweight model on NRF52840 edge device for real-time arrhythmia classification.	Aug. 2023 – Feb. 2024
<b>BRIDGE: Vocational Training Program for Koryoin</b> Designed a vocational education program for Koryeo immigrants in Jeon-buk Province.	Feb. 2023 – Jan. 2024
<b>FPGA-based Edge Computing System</b> Designed FPGA-based edge computing system for arrhythmia detection using PYNQ-Z2 board.	Aug. 2022 – Feb. 2023