

# Seungeui Byun

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## RESEARCH INTERESTS

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- Communications, Message Passing, Machine Learning, Quantum Computing

## EDUCATION

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<b>Korea University</b> <i>Graduate Student</i>	Mar. 2026 – Present <i>Seoul, Korea</i>
<ul style="list-style-type: none"><li>• Master of Science in Electrical and Computer Engineering</li></ul>	
<b>Korea University</b> <i>Undergraduate Student</i>	Mar. 2020 – Feb. 2026 <i>Seoul, Korea</i>
<ul style="list-style-type: none"><li>• Bachelor of Science in Electrical Engineering</li><li>• Cumulated GPA of 4.08/4.5 (3.84/4.0), graduated with Great Honors</li></ul>	

## RESEARCH EXPERIENCES

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<b>Graduate Research Assistant</b> <i>Lab for Informatics, Communications, and Systems   Korea University</i>	Mar. 2026 – Present <i>Seoul, Korea</i>
<ul style="list-style-type: none"><li>• Advisor: Professor Sang Hyun Lee</li></ul>	
<b>Undergraduate Research Assistant</b> <i>Lab for Informatics, Communications, and Systems   Korea University</i>	Jan. 2025 – Feb. 2026 <i>Seoul, Korea</i>
<ul style="list-style-type: none"><li>• Advisor: Professor Sang Hyun Lee</li><li>• Researched about NLoS position determination technology.</li><li>• Solved problem by message passing and quantum algorithm.</li><li>• Verified algorithm using Python and 3D city model by Unity engine.</li><li>• Gave a poster presentation and wrote Bachelor's thesis about the research.</li></ul>	
<b>Undergraduate Individual Study</b> <i>Info Lab   Korea Advanced Institute of Science and Technology (KAIST)</i>	Dec. 2024 – Feb. 2025 <i>Daejeon, Korea</i>
<ul style="list-style-type: none"><li>• Advisor: Professor Si-Hyeon Lee</li><li>• Studied about resource allocation optimization in mobile edge computing (MEC) environment.</li><li>• Established new multi-user, multi-UAV model using clustering algorithm.</li></ul>	

## PERSONAL PROJECTS

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<b>Maze Tracker</b>   <i>Production for HandS Hardware Hackathon</i>	Sep. 2024
<ul style="list-style-type: none"><li>• Built maze-tracking car using infrared sensors and MOSFETs, hardware-only logic without microcontrollers.</li></ul>	
<b>Style-Finding Model for Historical Paintings</b>   <i>Pytorch, pandas, Imagenet, Resnet</i>	June 2024
<ul style="list-style-type: none"><li>• Developed CNN model using VGGNet-19 and ResNet-152, achieved accuracy of 84 %.</li><li>• Gave a poster presentation about the model and its results.</li></ul>	

## AWARDS AND HONORS

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Semester High Honors	Jan. 2026
Semester High Honors	July 2025
Semester High Honors	Jan. 2025
4th place on IBM Qiskit Fall Fest 2024, IBM Quantum and Korea University	Nov. 2024
1st place on HandS Hardware Hackathon, Korea University (around 30 participants)	Sep. 2024
Semester High Honors	Jan. 2021
Semester High Honors	July 2020

## SKILLS

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**Programming Languages:** C, Python, MATLAB, Verilog, L<sup>A</sup>T<sub>E</sub>X  
**Languages:** Korean (Native), English (Fluent, TOEIC 990)  
**Developer Tools:** Git, VS Code, Visual Studio  
**Libraries:** pandas, NumPy, Matplotlib, Pytorch, Qiskit

## ACTIVITIES

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**Korea University Engineering Community Service** Mar. 2024 – Feb. 2026

*Member of management team*

- Voluntary organization dedicated to teaching elementary school students about engineering.
- Brought diverse science experiments to elementary students in the Dongdaemun and Seongbuk districts, Seoul.
- Participated in KUECS School, introducing middle and high school students to university life and academics.

**Quantum Information Club at Korea University** Mar. 2024 – Aug. 2025

*Regular member*

- Participated in IBM Qiskit Fall Fest 2023 and 2024, held in Korea University.
- Participated in Quantum Summer School 2024, held by Korean Physical Society.
- Joined Quantum Information Science Club Association (Korea Univ., Seoul Nat'l Univ., Yonsei Univ., KAIST).

**K2 Global Leadership Program** Aug. 2025

*Korea University, Keio University*

*Seoul, Korea and Tokyo, Japan*

- Full-funded program held by Korea University Innovation Center for Engineering Education.
- Korea University–Keio University undergraduate exchange program focused on global leadership development.
- Engaged in lectures and discussions conducted entirely in English on key subject related to international relations.
- Awarded a certificate of completion and MVP award for the program.

**HandS, KU EE Hardware & Software Community** Sep. 2023 – Feb. 2025

*Regular member*

- Participated in Raspberry Pi seminar, imbedded system and CV studies.
- Participated in HandS Hardware Hackathon, won first place.
- Worked in natural language processing project, related to deep learning.

**One and Zero, KU EE Software Community** Mar. 2023 – Feb. 2024

*Regular member*

- Participated in deep learning study and Python seminar.

**Korea University Computer Club** Sep. 2020 – Aug. 2021

*Member of management team*

- Studied pandas package in Python for various data processing.
- Participated in HTML/CSS/JS study and simple web programming project.

## OTHER EXPERIENCES

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**Dolbit, Korea University Movie Production Club** Mar. 2023 – Aug. 2025

*Sound Director, Production Leader, Actor*

- Participated in four movies as an actor, three movies as a sound director.

**Military Band, 2nd Operations Command, Republic of Korea Army** Sep. 2021 – Mar. 2023

*Clarinetist, Personnel Administrative Clerk*

*Daegu, Korea*

- Mandatory service as a Republic of Korea citizen.
- Served as a first clarinet role for military band of the command.
- Managed squad's personnel information, selected as an Excellent Personnel Unit.