

Byeongju Woo

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Education

University of Michigan

Ph.D. in Computer Science and Engineering (advisor: Prof. Stella Yu)
Incoming Ph.D. Student

Starting Fall 2026
Ann Arbor, MI, USA

Pohang University of Science and Technology (POSTECH)

B.S. in Computer Science and Engineering
Summa Cum Laude

Mar 2019 – Feb 2023
Pohang, South Korea

Publications

1. Aligning Forest and Trees in Images and Long Captions for Visually Grounded Understanding

Byeongju Woo, Zilin Wang, Byeonghyun Pak, Sangwoo Mo, Stella Yu
In submission

2. Textual Query-Driven Mask Transformer for Domain Generalized Segmentation

Byeongju Woo*, Byeonghyun Pak*, Sunghwan Kim*, Dae-hwan Kim, Hoseong Kim
ECCV 2024

3. Human Pose Estimation in Extremely Low-Light Conditions

Sohyun Lee*, Jaesung Rim*, Boseung Jeong, Geonu Kim, **Byeongju Woo**, Haechan Lee, Sunghyun Cho, Suha Kwak
CVPR 2023

Research Experience

Independent Research

Remote Collaboration with University of Michigan (advisor: Prof. Stella Yu)

Jan 2025 – Present
Daejeon, South Korea

- Researched visually grounded understanding
- Researching visual representation learning for robotics
- One paper submitted [[project page](#)]

Machine Learning Lab @ POSTECH

Undergraduate Research Intern (advisor: Prof. Sungsoo Ahn)

Aug 2022 – Dec 2022
Pohang, South Korea

- Researched topological neural networks incorporating molecular structure (e.g., functional group)

Computer Vision Lab @ POSTECH

Undergraduate Research Intern (advisor: Prof. Suha Kwak)

Dec 2021 – May 2022
Pohang, South Korea

- Researched robust human pose estimation under adverse condition (e.g., extremely low-light)
- One Publication in CVPR 2023 [[project page](#)]

Industry Experience

Agency for Defense Development

Research Officer for National Defense (ROND)

Mar 2023 – Present
Daejeon, South Korea

- Researched Domain Generalized Object Detection for UAV detection
- One Publication in ECCV 2024 [[project page](#)]

SK Hynix

Computer Vision Research Intern

Jun 2021 – Jul 2021

Icheon, South Korea

- Developed an automated algorithm to pre-check for rejects in 3D NAND manufacturing with DL models

Teaching Experience

POSTECH AIGS102: Introduction to Artificial Intelligence II

Sep 2022 – Dec 2022

- Teaching Assistant for Prof. Eunyoung Youn, managed course assignments

POSTECH AIGS101: Introduction to Artificial Intelligence I

Mar 2022 – Jun 2022

- Teaching Assistant for Prof. Eunyoung Youn, weekly lab sessions and grading

Academic Services

Conference Reviewer

- International Conference on Machine Learning (ICML) 2026

Honor, Awards and Scholarship

Director's Award, Agency for Defense Development

Dec 2022

- Second place, national defense research projects (miliTECH Challenge)
- *Topic: Autonomous mobile robot with friend-or-foe identification*

Excellence Research Award, POSTECH

Jun 2022

- Second place, undergraduate CSE research project
- *Topic: Human pose estimation in extremely low-light conditions*

Minister's Award, Ministry of Science and ICT

Dec 2021

- First place, national defense research projects (miliTECH Challenge)
- *Topic: Designing adversarial patches to protect friendly forces from deep-learning detectors*

SK Hynix Industry-Academia Scholarship

Sep 2021 – Feb 2023

- **Stipend** scholarship for outstanding performance in industry-academia research

Korea National Scholarship of Excellence in Science and Technology

Mar 2021 – Feb 2023

- **Full-ride** scholarship for selected research officers in defense science and technology

Jigok Tuition Scholarship, POSTECH

Mar 2019 – Feb 2021

- **Full-ride** merit-based scholarship for academic excellence

Skills

Programming Languages: Python, C/C++, Java, R, SQL

Frameworks & Tools: PyTorch, TensorFlow, NumPy, OpenCV, Pandas, Docker, Git

Certificate: Engineer Big Data Analysis (acquired Oct. 2023)