

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
Under Review

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, Byungju 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 language-grounded visual understanding
- 1 paper under review

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)
- 1 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
- 1 Publication in ECCV 2024 [[project page](#)]

SK Hynix	Jun 2021 – Jul 2021
<i>Computer Vision Research Intern</i>	Icheon, South Korea
<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Teaching Assistant for Prof. Eunyoung Youn, managed course assignments 	
POSTECH AIGS101: Introduction to Artificial Intelligence I	Mar 2022 – Jun 2022
<ul style="list-style-type: none"> Teaching Assistant for Prof. Eunyoung Youn, weekly lab sessions and grading 	

Honor, Awards and Scholarship

Director's Award, Agency for Defense Development	Dec 2022
<ul style="list-style-type: none"> Second place, national defense research projects (miliTECH Challenge) <i>Topic: Autonomous mobile robot with friend-or-foe identification</i> 	
Excellence Research Award, POSTECH	Jun 2022
<ul style="list-style-type: none"> Second place, undergraduate CSE research project <i>Topic: Human pose estimation in extremely low-light conditions</i> 	
Minister's Award, Ministry of Science and ICT	Dec 2021
<ul style="list-style-type: none"> First place, national defense research projects (miliTECH Challenge) <i>Topic: Designing adversarial patches to protect friendly forces from deep-learning detectors</i> 	
SK Hynix Industry-Academia Scholarship	Sep 2021 – Feb 2023
<ul style="list-style-type: none"> Stipend scholarship for outstanding performance in industry-academia research 	
Korea National Scholarship of Excellence in Science and Technology	Mar 2021 – Feb 2023
<ul style="list-style-type: none"> Full-ride scholarship for selected research officers in defense science and technology 	
Jigok Tuition Scholarship, POSTECH	Mar 2019 – Feb 2021
<ul style="list-style-type: none"> 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)