

# 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<sup>\*</sup>, Byeonghyun Pak<sup>\*</sup>, Sunghwan Kim<sup>\*</sup>, Dae-hwan Kim, Hoseong Kim

*ECCV 2024*

### 3. Human Pose Estimation in Extremely Low-Light Conditions

Sohyun Lee<sup>\*</sup>, Jaesung Rim<sup>\*</sup>, 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 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**

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**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**

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**Conference Reviewer**

- International Conference on Machine Learning (ICML) 2026

**Honor, Awards and Scholarship**

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**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**

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**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)