

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

C: conference, W: workshop, P: preprint / * equal contribution, † corresponding author

[P1] **Aligning Forest and Trees in Images & Long Captions for Visually Grounded Understanding**

Byeongju Woo, Zilin Wang, Byeonghyun Pak, Sangwoo Mo, Stella Yu[†]

In submission

[W1] **Pixel-level Scene Understanding in One Token: Visual States Need What-is-Where Composition**

Seokmin Lee, Yunghee Lee, Byeonghyun Pak, Byeongju Woo[†]

CVPR 2026 Workshops, *Pixel-level Video Understanding in the Wild* [[project page](#)]

[C2] **Textual Query-Driven Mask Transformer for Domain Generalized Segmentation**

Byeongju Woo*, Byeonghyun Pak*, Sunghwan Kim*, Dae-hwan Kim, Hoseong Kim[†]

ECCV 2024 [[project page](#)]

[C1] **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 [[project page](#)]

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
- One publication in CVPRW 2026

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)

Industry Experience

- Agency for Defense Development** Mar 2023 – Present
Research Officer for National Defense (ROND) Daejeon, South Korea
- Served on the execution team of AI Transformation Task Force (Feb 2026 – Mar 2026)
 - Researched Domain Generalized Object Detection for UAV detection
 - One publication in ECCV 2024
- SK Hynix** Jun 2021 – Jul 2021
Computer Vision Research Intern 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**
- Conference on Neural Information Processing Systems (**NeurIPS**) 2026
 - International Conference on Machine Learning (**ICML**) 2026
 - Gold Reviewer Award, top 25% of reviewers

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)