Nahyuk Lee

POSITION	**M.S. Candidate** **Department of Computer Science and Engineering** **Pohang University of Science and Technology (POSTECH)**

CONTACT
INFORMATION

Computer Vision Laboratory
E2 302, Department of CSE, POSTECH
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Pohang-si, Gyeongsangbuk-do, 37673
Republic of Korea
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CITIZENSHIP   The Republic of Korea

BIRTHDAY   Jan 13th, 2000.

RESEARCH
INTERESTS

(3D) Computer vision and deep learning,
especially, learning visual correspondences and its applications

EDUCATION

Pohang University of Science and Technology (POSTECH), Pohang, Korea
M.S. Student in Computer Science and Engineering   **Feb 2023 - now**
- Advisor : Prof. Minsu Cho
- Major : Computer Science and Engineering
- Admission with the highest distinction (Bang Sung-Yang Fellowship)

Chung-Ang University, Seoul, Korea
B.S. in Computer Science and Engineering   **Mar 2019 - Feb 2023**
- Advisor : Prof. Junseok Kwon
- Major : Computer Science and Engineering
- Cumulative GPA : 4.31/4.5 (Summa Cum Laude)

Hyundai Chung-Un High School, Ulsan, Korea
Natural Science Track   **Mar 2015 - Feb 2018**

RESEARCH
EXPERIENCES

Computer Vision Lab, POSTECH, Pohang, Korea
Graduate Research Assistant   **Jul 2022 - now**
- Advisor : Prof. Minsu Cho
- Research on 3D computer vision and visual correspondences :
  - *Visual correspondence* : Research computational efficient 3D point cloud matching for point cloud registration and geometric shape assembly [ICML 2024].
  - *Group equivariant learning* : Research SE(3)-equivariant 3D point cloud learning for point cloud registration and geometric shape assembly (ongoing).
- Collaboration with VGI Lab, SNU (Kanghee Lee, Prof. Jaesik Park).

Undergraduate Research Fellowship   **Jan 2022 - Feb 2022**
- Advisor : Prof. Jaesik Park
- Research on point cloud augmentation and sampling methods for robust 3D classification.
- Collaboration with student at CUHK (Hansheng Guo).

Computer Vision Lab, Korea University, Seoul, Korea
Research Intern (full-time)   **Mar 2021 - Nov 2021**
- Advisor : Prof. Sangpil Kim
- Research on audio-guided image manipulation [NeurIPSW 2021], and event-based photometric stereo and synthetic DVS dataset creation.

Computer Graphics Lab, Chung-Ang University, Seoul, Korea
Research Intern (full-time) **Dec 2019 - Feb 2021**
- Advisor : Prof. Sanghyun Seo and Prof. Kyunghyun Yoon
- Research on 3D reconstruction [JDCS 2020], and vision-based emotion analysis [CSCI 2020, JDCS 2021].

PUBLICATIONS
(SELECTED)

Nahyuk Lee*, Juhong Min*, Junha Lee, Seungwook Kim, Kanghee Lee, Jaesik Park, Minsu Cho, "3D Geometric Shape Assembly via Efficient Point Cloud Matching," *in Proceedings of the International Conference on Machine Learning* **(ICML)**, 2024 (*equal contribution)

Nahyuk Lee, Juhong Min, Junha Lee, Seungwook Kim, Kanghee Lee, Jaesik Park, Minsu Cho, "3차원 기하학적 조립을 위한 효율적인 점 구름 매칭," in *Workshop on Image Processing and Image Understanding* (IPIU), 2024, **Oral presentation**
Best Paper Award (**Grand Prize**, 1st of 311 papers $\approx$ **0.3**%)

Seung Hyun Lee, **Nahyuk Lee**, Chanyoung Kim, Wonjeong Ryoo, Jinkyu Kim, Sang Ho Yoon, Sangpil Kim, "Audio-Guided Image Manipulation for Artistic Paintings," in *NeurIPS Workshop on Machine Learning for Creativity and Design* **(NeurIPSW)**, 2021

PUBLICATIONS
(OTHERS)

Nahyuk Lee, Taemin Lee, "The Study for Emotion Analysis from Images depend on Machine Learning Models," in *Journal of Digital Contents Society* (JDCS), 2021

Taemin Lee, **Nahyuk Lee**, Sanghyun Seo, Dongwann Kang, "A Study on the Prediction of Emotion from Image by Time-flow depend on Color Analysis," in *Proceeding of the International Conference on Computational Science and Computational Intelligence* (CSCI), 2020

Nahyuk Lee, Kyungtaek Lee, Youngsup Park, Sanghyun Seo, Taemin Lee, "Development of 3D Reconstruction and Object Recognition Model using Video," in *Journal of Digital Contents Society* (JDCS), 2020

ACADEMIC
SERVICES

International Conference on Learning Representations (ICLR) 2025
Conference Reviewer

HONORS AND
AWARDS

18th Kwanjeong Educational Foundation Fellowship, KEF, 2023
- Winner, received **$16,500** during 2 years of my graduate studies

Bang Sung-Yang Graduate Fellowship, POSTECH, 2023
- Admission with highest distinction, **$1,200**

16th Kwanjeong Educational Foundation Fellowship, KEF, 2021
- Winner, received **$16,500** during 2 years of my undergraduate studies

University Innovation Support Project Scholarship, UISPC, 2021
- Research fellowship, **$750**

SW Specialization Scholarship, CAU, 2020 - 2022
- Research fellowship, **$4,200** (total)

Da Vinci Scholarship, CAU, 2019
- Admission with highest distinction, **$7,250**

Dean's List, CAU, 2019 - 2021
- 2019 Fall, 2020 Spring, 2020 Fall, 2021 Fall (4 times)

Awards
- Best Paper Award (**Grand Prize**, 1st of 311 papers $\approx$ **0.3**%),
  36th Workshop on Image Processing and Image Understanding (IPIU), 2024
- Excellence Prize in Research Report,
  Innovation Center for Engineering Education, CAU, 2022

- Excellence Prize in Project,
  Davinci Software Institute, CAU, 2021
- Best Paper Award,
  Digital Contents Society, 2020
- Excellence Award in Project,
  Innovation Center for Engineering Education, CAU, 2020
- Best Paper Award (top 10% papers),
  International Next-generation Convergence Technology Association (INCA), 2020
- Best Paper Award (2nd Prize),
  Humanities Research Institute, CAU, 2020

TEACHING
EXPERIENCES

Pohang University of Science and Technology (POSTECH)
Teaching Assistant   **Feb 2024 - Mar 2024**
- CSED537/AIGS537 - Artificial Intelligence & Data Science (2024 Spring)

Ministry of National Defense, Republic of Korea
Instructor   **Nov 2022 - Dec 2022**
- Conduct lectures on AI projects for South Korean soldiers and short-term service officers
- Collaboration with *Elice, Inc.*

Samsung Electronics Co., Ltd
Instructor   **Aug 2022 - Oct 2022**
- Conduct DX lectures on data science and machine learning for newcomers (DS division)
- Collaboration with *Elice, Inc.*

Chung-Ang University
Teaching Assistant   **Sep 2020 - Dec 2022**
- GE 56423 - Computational Thinking and AI Literacy (2022 Fall)
- GE 52431 - Understanding SW Programming for Problem Solving (2020 Fall, 2021 Spring/Fall, 2022 Spring)
- GE 51368 - Computational Thinking and Problem Solving (2021 Spring/Fall, 2021 Spring/Fall)
- CSE 17086 - Discrete Mathematics (2021 Fall)

Korea Scholar's Conference for Youth (KSCY)
Facilitator & Tutor   **Jun 2019 - Feb 2021**
- Facilitator : 12th-13th KSCY computer engineering track camp facilitator
- Tutor : 15th KSCY computer engineering track tutor

LEADERSHIP

Graduate School of Dept. of CSE, POSTECH
President of Student Council   **Feb 2024 - now**
- President of graduate school council of Department of Computer Science & Engineering, POSTECH.

Kwanjeong Educational Foundation Fellowship
18th *Vice President*   **Jul 2023 - Jul 2024**
- Vice president of 18th Kwanjeong Educational Foundation Fellowship mensches.

Chung-Ang University Artificial Intelligence Society (CUAI)
3rd - 4th *President*   **Mar 2020 - Feb 2022**
- 3rd (Mar 2020 - Feb 2021) and 4th (Mar 2021 - Feb 2022) president of the student AI society at Chung-Ang University, CUAI.

LANGUAGE
SKILLS

Korean (native), English (fluent)

REFEREES

Available on request.