Byungwoo Jeon

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Research Interest

My research goal is to build a representation of the 3d world so that it can be used in real-time for real-world problems. To this end, I focus on (i) how to effectively reduce the computation and memory cost of 3d data and (ii) how to understand primitives in general in terms of neural networks.

- Self-supervised and Contrastive Learning
- Neural Radiance Fields
- Generative Models

Education

Korea University — *Seoul, Korea*

B.S. in Computer Science & Engineering, Statistics (Double Major) — *Mar 2020 - Current*

Experience

Algorithmic Intelligence Lab (ALINLAB), KAIST AI — *Jeongja, Korea*

Undergraduate Intern (advisor: Prof. Jinwoo Shin) — *Mar 2023 - Current*

- Researched Self-supervised Learning on Label-free and Zero-shot Tasks
- Researched Depth Estimation with Neural Radiance Fields

ARCREAL — *Gangnam, Korea*

Research Intern (host: Prof. Jinwoo Shin) — *Jan 2023 - Current*

- Developed AI systems for medical equipment
- Developed segmentation projects
- Researched several 3d vision topics

LIM Lab, Korea Univ. STAT — *Anam, Korea*

Undergraduate Intern (advisor: Prof. Sungbin Lim) — *Aug 2023 - Current*

- Researched Diffusion models with Genesis Lab

Machine Learning & Vision Lab (MLVLAB), Korea Univ. CSE — *Anam, Korea*

Undergraduate Intern (advisor: Prof. Hyunwoo J. Kim) — *Jul 2022 - Dec 2022*

- Studied Open-Vocabulary Object Detection
- Studied Human-Object Interaction (HOI)
- Participated in the government policy supporting AI challenge team
- Participated in the MLVLAB weekly group paper study (*Paper reading & Implementation*)

M-Monstar — *Pangyo, Korea*

Full-stack Developer — *Jul 2021 - Aug 2021*

- Developed a modular e-commerce management platform page using Laravel framework
- Optimized and debugged the site, HAGO

Honors & Awards

Artificial Intelligence Grand Challenge — *Seoul, Korea*

Top 9 (8^{th} Prize) — *Oct 2022 - Dec 2022*

- Developed AI for supporting the government policies based on natural language proceessing
- Developed query parser for pre-processing

Training

United Collegiate Programming Contest — *Seoul, Korea*

3 Problems solved — *Jul 2021*

Yonsei-NAVER CLOUD Data Science Course — *Seoul, Korea*

Completed financial engineering course — *Feb 2021 - Jun 2021*

Skills

Programming Python (PyTorch, TensorFlow), C, C++, SQL, PHP, Javascript, R, SAS, Rust
Miscellaneous Linux, Firebase, Git, LaTeX
Soft Skills Teamwork, Problem-solving, Documentation, Engaging Presentation.

Extracurricular Activity

KUBIG

Member *Jul 2023 - Jul 2024*

- Participated in Computer Vision Seminar
- Participated in Time Series Analysis Seminar
- Participated as a pacemaker in Deep Learning Session of Professor Sungbin Lim, Korea Univ.

Google Developer Students Club

Lead *Jul 2022 - Aug 2023*

- Lectured Machine Learning, Databases, and Algorithm courses for undergraduate students
- Developed stable diffusion crawling with text summarization project
- Developed 2023 Google Solution Challenge project (digiHow)
- Lead three teams to the Global Top 100 in 2023 Google Solution Challenge
- Lead one team to the Global Top 10 in 2023 Google Solution Challenge
- Host of 2023 East Asia GDSC Global Hackathon in Tokyo

Korea Computer Science Academy (Academy club in Korea Univ.)

Member & Instructor *Mar 2020 - Mar 2022*

- Lectured Data Structure course for undergraduate students
- Lectured C Programming course for undergraduate students

Languages

English Professional proficiency
Korean Native proficiency

Coursework

2020-1	**Fundamentals of Data Science**	
2020-2	**Computer Programming**	
2020-2	**Linear Algebra**	
2020-2	**Data Structure**	
2021-1	**Algorithm**	
2021-1	**Theory of Computation**	
2021-1	**Discrete Mathematics**	
2021-2	**Databases**	*A+, Second-place*
2021-2	**Computer Network**	
2021-2	**Computer Architecture**	
2022-1	**Statistical Mathematics**	
2022-1	**Introduction to Probability Theory**	
2022-1	**Operating Systems**	
2022-1	**Artificial Intelligence**	*A+*
2022-2	**Machine Learning**	*A+*
2022-2	**Deep Learning**	*A+*
2022-2	**Regression Analysis**	
2022-2	**Probability and Random Process**	
2023-1	**Analysis**	
2023-1	**Natural Language Processing**	*A+*
2023-1	**Computer Vision**	*A+*
2023-1	**Statistical Data Science**	*A+, First-place*