

# MINSEONG KWEON

+1 (763) 458-5075 ◇ kweon021@umn.edu

[Google Scholar](#) ◇ [Personal Page](#)

## INTERESTS

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3D Scene Reconstruction, Visual Localization, Depth Estimation, SLAM

## EDUCATION

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**University of Minnesota**, Twin Cities, United States  
M.S. in Robotics

Sep. 2025 —

**Pusan National University**, Busan, Republic of Korea  
B.S. in Mechanical Engineering

Mar. 2019 — Feb. 2025

## PUBLICATIONS

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2. **NoiseGS: Boosting 3D Gaussian Splatting with Positional Noise for Large-Scale Scene Reconstruction**

Minseong Kweon, Kai Cheng, Xuejin Chen, Jinsun Park

*European Association for Computer Graphics (Eurographics)* short paper, 2025. [\[Paper\]](#) [\[Project Page\]](#)

1. **ULTRON: Unifying Local Transformer and Convolution for Large-scale Image Retrieval**

Minseong Kweon, Jinsun Park

*Asian Conference on Computer Vision (ACCV)*, 2024. [\[Paper\]](#)

## RESEARCH ONGOING & UNDER REVIEW

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4. **OceanSplat: Object-aware Gaussian Splatting with Trinocular View Consistency for Underwater Scene Reconstruction**

Minseong Kweon, Jinsun Park

Under review (double-blind)

3. **CAR-Stereo: Confidence-aware Adaptive Disparity Refinement for Real-time Stereo Matching**

Chanill Park, Janghyun Kim, Minseong Kweon, Jinsun Park

Under review (double-blind)

2. **MrGS: Multi-modal Radiance Fields with 3D Gaussian Splatting for RGB-Thermal Novel View Synthesis**

Minseong Kweon, Janghyun Kim, Ukcheol Shin, Jinsun Park

► Winner of **Best Poster Award** at Thermal Infrared Robotics (TIRO) Workshop, ICRA 2025. [\[Prize\]](#) [\[Project Page\]](#)

1. **All-day Depth Completion via Thermal-LiDAR Fusion**

Janghyun Kim, Minseong Kweon, Jinsun Park, Ukcheol Shin

Under review at IEEE Transactions on Intelligent Vehicles (T-IV). [\[Paper\]](#)

## PROFESSIONAL SERVICES

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- **Program Committee & Reviewer** AAAI Conference on Artificial Intelligence (AAAI), 2026

## RESEARCH EXPERIENCE

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**VGG-Group, University of Science and Technology of China**

Visiting Research Student

Summer 2024

Hefei, China

**Advisor:** Dr. Xuejin Chen

**Research Area:** 3D Reconstruction

- **Project:** Distributed 3D Gaussian Splatting for large-scale 3D reconstruction  
Improved rendering quality on the *MatrixCity* dataset by leveraging depth and semantic priors with a two-stage 3D Gaussian Splatting framework, consisting of densification in a multi-GPU setup and fine-tuning on a single GPU.

**Advisor:** Dr. Seungmin Choi

**Research Area:** Visual localization, Image retrieval

- **Project:** Visual Place Recognition for quadruped autonomous robots  
Improved median translation/rotation error on the *Aachen Day-Night* datasets by 0.27 degrees over previous methods, combining local and global features instead of reranking in the 2D matching stage of the visual localization pipeline.

## WORK EXPERIENCE

### Sandburg Inc.

Software Engineer

Jun. 2022 – Dec. 2022

Busan, Republic of Korea

- Developed a sales prediction ML platform using commerce datasets.

## PRESENTATIONS

### 3. Self-Similarity Feature Learning for Person Re-Identification

Minseong Kweon, Jinsun Park

Summer Annual Conference of Institute of Electronics and Information Engineers (IEIE), 2024. [\[Paper\]](#)

### 2. Hierarchical Visual Localization for Indoor Autonomous Systems

Minseong Kweon, Jeonghyun Noh, Chanill Park, Jinsun Park

Korea Robotics Conferences (KRoC), 2024. [\[Paper\]](#)

### 1. Attention-based Human Activity Recognition with 3-axis Accelerometer Data Conversion

Minseong Kweon, Jaehyeong Park, Kyunghyun Kim, Jeonghyun Noh, Jinsun Park

Korea Computer Congress (KCC), 2023. [\[Paper\]](#)

## PATENTS

1. **Minseong Kweon**, Jinsun Park, "METHOD AND SYSTEM FOR PROCESSING IMAGES BASED ON LOCAL ATTENTION". Korean Patent Application No. 10-2024-0176234. Patent Pending.

## SKILLS

### Programming

Python, C/C++, CUDA, MATLAB, JavaScript

### Deep Learning Frameworks

Proficient in **Pytorch**, with working knowledge of TensorFlow

### Cloud Computing

AWS, Firebase

## MILITARY SERVICE

### Republic of Korea Air Force

Aug. 2020 – May 2022

- Served and was honorably discharged from the Republic of Korea Air Force.

Republic of Korea

## REFERENCES

### • Dr. Jinsun Park

Assistant Professor, School of Computer Science and Engineering, Pusan National University

Email: jspark@pusan.ac.kr

### • Dr. Xuejin Chen

Professor, Dept. of Electronic Engineering and Information Science, University of Science and Technology of China

Email: xjchen99@ustc.edu.cn

### • Dr. Seungmin Choi

Principal Researcher, Mobility Robot Research Division, Electronics and Telecommunications Research Institute

Email: ccsmm@etri.re.kr