Seokjun Kwon

M.S Student · Sejong University

Daeyang AI Center, 05006, Seoul, Repulic of Korea

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Education

Sejong University — *Seoul, South Korea*

M.S in Department of AI Robotics — *Mar.2024 -*

- Advisor: Prof. Yukyung Choi

Sejong University — *Seoul, South Korea*

B.S in Department of Intelligent Mechatronics Engineering — *Mar.2018 - Feb.2024*

- Hornors: Cum Laude (Overall GPA: 3.94/4.5, Major GPA: 4.24/4.5)
- Undergrad advisor: Prof. Yukyung Choi

Publications

[C3] Boosting Cross-spectral Unsupervised Domain Adaptation for Thermal Semantic Segmentation — *May, 2025*

Seokjun Kwon*, Jeongmin Shin*, Namil Kim, Soonmin Hwang, and Yukyung Choi

- International Conference on Robotics and Automation **(ICRA)**
- Acceptance Rate: 38.7%

[C2] A Two-Stage Framework for Small Character Detection in the Manufacturing Industry — *Nov, 2024*

Yunseo Jeong*, **Seokjun Kwon***, Jeongmin Shin and Yukyung Choi

- International Conference on Control, Automation and Systems (ICCAS)

[J1] UMHE: Unsupervised Multispectral Homography Estimation — *Apr, 2024*

Jeongmin Shin, Jiwon Kim, **Seokjun Kwon**, Namil Kim, Soonmin Hwang, and Yukyung Choi

- IEEE Sensors Journal
- Impact Factor: 4.3 **(SCIE, Q1)**

[C1] Unsupervised Domain Adaptation with Mutual Learning for Semantic Segmentation for Thermal Images — *Feb, 2023*

Seokjun Kwon, Jeongmin Shin, Daechan Han, and Yukyung Choi

- Image Processing and Image Understanding (IPIU)
- Bronze Prize, **Best Paper Award**

Research Experience

Research on Autonomous eVTOL Core Convergence Technology for Urban Air Mobility (UAM). — *Sejong Univ*

Funded by The Ministry of Science and ICT (MSIT) — *Jul. 2024 - Current*

- Developed an open-vocabulary object detection algorithm for autonomous eVTOL driving and landing.

Development of an AI-Based High Resolution Low Power Smart Camera and Machine Vision Integrated Solution for Defect Detection in Manufacturing — *Sejong Univ*

Funded by Ministry of Trade, Industry and Energy (MOTIE) — *Apr. 2023 - Current*

- Developed a real-time small character detection algorithm for machine vision camera. **[C2]**

ICT Challenge and Advanced Network of HRD *Sejong Univ*

Funded by The Ministry of Science and ICT (MSIT) *Jul. 2022 - Current*

- Developed a model for estimating the homography matrix between RGB and Thermal Images. **[J1]**

Development of AI Camera Technology to Support Battlefield Environmental Awareness and Weapon System Performance *Sejong Univ*

Funded by The Ministry of Science and ICT (MSIT) *Mar. 2022 - Feb. 2023*

- Developed a domain adaptation algorithm for a thermal sensor-based semantic segmentation task. **[C3, C1]**

Awards

MSIT 1st Autonomous Driving AI Challenge *Nov, 2024*

- **3rd Prize**
- Developed object detection and instance segmentation algorithms for autonomous driving car.

The 35th Workshop on Image Processing and Image Understanding (IPIU) *Feb, 2023*

- Bronze Prize, **Best Paper Award**

Patents

Method for Detecting Defects in Manufacturing Industrial Products and Apparatus *Sep, 2024*

- Korea patent (applied) No. 10-2023-0118908

Cross Spectral Unsupervised Domain Adaptation Method and Apparatus *Aug, 2024*

- Korea patent (applied) No. 10-2024-0113714

Multispectral Homography Estimation Method and Apparatus *Apr, 2023*

- Korea patent (applied) No. 10-2023-0054572

Teaching Experience

Deep Learning System *Spring, 2024*

Instructor: Prof. Yukyung Choi

- Role: Head Teaching Assistant

Artificial Intelligence *Fall, 2023*

Instructor: Prof. Yukyung Choi

- Role: Teaching Assistant

Machine Learning *Spring, 2023*

Instructor: Prof. Yukyung Choi

- Role: Teaching Assistant