Seokjun Kwon

M.S Student · Sejong University

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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]**

FEBRUARY 2025   SEOKJUN KWON · CURRICULUM VITAE   1

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**

SEJONG AI CHALLENGE *Nov, 2022*
- **3rd Prize**
- Python Track

Patents

METHOD FOR DETECTING DEFECTS IN MANUFACTURING INDUSTRIAL PRODUCTS AND APPARATUS *Sep, 2024*
- Korea patent (applied) No. 10-2024-0118908

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