

Seokjun Kwon

M.S STUDENT · SEJONG UNIVERSITY

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Education

Sejong University

M.S IN DEPARTMENT OF AI ROBOTICS

- Advisor: Prof. Yukyung Choi

Seoul, South Korea

Mar.2024 -

Sejong University

B.S IN DEPARTMENT OF INTELLIGENT MECHATRONICS ENGINEERING

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

Seoul, South Korea

Mar.2018 - Feb.2024

Work

NAVER LABS Corp.

ROBOT VISION & LEARNING TEAM INTERN

- Advisor: Sunwook Choi

Seongnam, South Korea

Apr.2025 - Sep.2025

Publications

[J2] ContraText-DETR: Boosting Industrial Scene Text Detection Based on Contrastive Learning and Synthetic Low-Contrast Text

Jul, 2025

YUNSEO JEONG ,**SEOKJUN KWON**, JEONGMIN SHIN, AND YUKYUNG CHOI

- IEEE Sensors Journal
- Impact Factor: 4.5 (**SCIE, Q1**)

[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).	<i>Sejong Univ</i>
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	<i>Sejong Univ</i>
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	<i>Sejong Univ</i>
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	<i>Sejong Univ</i>
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 AND APPARATUS FOR TEXT DETECTION IN INDUSTRIAL ENVIRONMENTS USING A DEEP LEARNING MODEL	May, 2025
• Korea patent (applied) No. 10-2025-0069631	
MULTI-SOURCE DOMAIN LEARNING METHOD AND APPARATUS FOR OBJECT DETECTION	May, 2025
• Korea patent (applied) No. 10-2025-0064651	
MULTISPECTRAL HOMOGRAPHY ESTIMATION METHOD AND APPARATUS	Jan, 2025
• Korea patent (registered) No. 10-751399	
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	

Teaching Experience

Deep Learning System	<i>Spring, 2024</i>
INSTRUCTOR: PROF. YUKYUNG CHOI	
• Role: Head Teaching Assistant	

Artificial Intelligence*Fall, 2023*

INSTRUCTOR: PROF. YUKYUNG CHOI

- Role: Teaching Assistant

Machine Learning

INSTRUCTOR: PROF. YUKYUNG CHOI

- Role: Teaching Assistant

Spring, 2023