Jin Kim

PH.D CANDIDAATE · YONSEI UNIVERSITY

Digital Image Media Laboratory (DIML), C129, The 3rd Engineering Building, Yonsei-ro 50, Seodaemun-Gu, Seoul, Rep. of KOREA

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Research Interests

Research Interest: Computer vision, Deep learning, Effective computing

Detailed subject:
- Vision-Language model
- Domain Generalization, Unsupervised Domain Adaptation
- Meta-Learning and Memory Network
- Semantic Segmentation

Education

Yonsei University (Link)   *Seoul, S.Korea*

PH.D. CANDIDATE IN SCHOOL OF ELECTRICAL AND ELECTRONIC ENGINEERING   *Mar. 2020 - Present*
- Supervised by Prof. Kwanghoon Sohn.

Yonsei University (Link)   *Seoul, S.Korea*

B.S. IN SCHOOL OF ELECTRICAL AND ELECTRONIC ENGINEERING   *Mar. 2013 - Feb. 2020*
- Full Scholarship by National S&T(Science & Technology)
- GPA : 3.91 / 4.5, Major course average : 4.15 / 4.5

Ulsan Science High School (Link)   *Ulsan, S.Korea*

                                                                                                              Mar. 2010 - Feb. 2013

Publication

International Conference (Accepted)

"Layer-wise Auto-Weighting for Non-Stationary Test-Time Adaptation"   *Paper Link, Project Link*

JUNYOUNG PARK, **JIN KIM**, HYEONGJUN KWON, ILHOON YOON, AND KWANGHOON SOHN   *Jan. 2024*
- IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV 2024**)

"Knowing Where to Focus: Learning Dynamic Moment Queries for Video Grounding"   *Paper Link, Project Link*

JINHYUN JANG, JUNGIN PARK, **JIN KIM**, HYEONGJUN KWON, AND KWANGHOON SOHN   *Oct. 2023*
- IEEE/CVF International Conference on Computer Vision (**ICCV 2023**)

"Probabilistic Prompt Learning for Dense Prediction"   *Paper Link*

HYEONGJUN KWON, TAEYONG SONG, SOMI JEONG, **JIN KIM**, AND KWANGHOON SOHN   *Jun. 2023*
- IEEE / CVF Computer Vision and Pattern Recognition Conference (**CVPR 2023**)

"Pin the memory: Learning to Generalize Semantic Segmentation"   *Paper Link, Project Link*

JIN KIM, JIYOUNG LEE, JUNGIN PARK, DONGBO MIN, AND KWANGHOON SOHN   *June. 2022*
- IEEE / CVF Computer Vision and Pattern Recognition Conference (**CVPR 2022**)

"Self-balanced Learning for Domain Generalization"   *Paper Link, Project Link*

JIN KIM, JIYOUNG LEE, JUNGIN PARK, DONGBO MIN, AND KWANGHOON SOHN   *Sep. 2021*
- IEEE International Conference on Image Processing (**ICIP 2021**)

Research Experience

**Development of Complex Situational Awareness and Prediction Technology through
Multi-modal Data Fusion and Social Artificial Intelligence (**멀티모달 데이터 융합 및   *Seoul, S.Korea*
사회적 인공지능을 통한 복합적 상황 인지 및 예측 기술 개발**)**

FUNDED BY MINISTRY OF SCIENCE, MID-LEVEL RESEARCH.   *Mar. 2021 - Present*
- Developed an algorithm for computer vision with multi-modal data.

Development of AI systems that robustly and properly perform in novel environment that occur in open worlds (현실 세계에서 변화하는 상황에 따라 지속적으로 자가 개선하는 인공지능 기술 개발)

Seoul, S.Korea

FUNDED BY INSTITUTE OF INFORMATION & COMMUNICATION TECHNOLOGY, SOUTH KOREA

Mar. 2020 - Feb. 2022

- Developed algorithms for autonomous delivery robot that can robustly perform computer vision tasks in out-of-distribution situation.
- Developed an algorithms for domain generalization using meta-learning.

Development of ship detection model in satellite image domain.

Seoul, S.Korea

SHIP DETECTION CHALLENGE HOSTED BY AGENCY FOR DEFENSE DEVELOPMENT OF SOUTH KOREA(LINK1) & DACON (LINK2)

July. 2019 - Apr. 2020

- Idea planning, code development and network tuning for this challenge.
- Github repository : Project Link

Development of building segmentation model in aerial image domain.

Seoul, S.Korea

YONSEI UNIVERSITY, DEPT. OF ELECTRICAL AND ELECTRONIC ENGINEERING

Mar. 2019 - July. 2019

- Developed building segmentation model can robust perform in aerial image domain.

Teaching Assistant.

Seoul, S.Korea

YONSEI UNIVERSITY, DEPT. OF ELECTRICAL AND ELECTRONIC ENGINEERING

July. 2020 - Dec. 2021

- Digital signal processing, Electrical and electronic engineering experiments: fundamentals., Capstone Design

Domestic Patent

"메모리를 이용하는 의미론적 영상 분할 장치 및 방법", (Semantic image segmentation apparatus and method using memory)

JIN KIM AND KWANGHOON SOHN

Dec. 2021

- Korean patent, 10-2021-0179588

International Patent

"Semantic image segmentation apparatus and method using memory"

JIN KIM AND KWANGHOON SOHN

Dec. 2022

- PCT(Patent Coorperation Treaty), PCT/KR2022/020264

Honors & Awards

2020 - Present	**Early Admission Scholarship**, by Dept. of Electrical and electronic engineering	*Yonsei University, S. Korea*
2020	**4th place / 383 entries**, DACON Ship Detection Challenge	*Agency for Defense Development, S. Korea*
2017, 2018	**Academic Excellence Honor**, by Dept. of Electrical and electronic engineering	*Yonsei University, S. Korea*
2013 - 2020	**Full scholarship for 4 years**, by National Science & Technology	*Korea Student Aid Foundation*
2016	**Seoul Metropolitan Police Agency Award Certificate**, by Commissioner General	*Korean National Police Agency*

Skills

Programming	Python, C/C++, JAVA, bash scripts, Matlab, VBA
Deep Learning	Pytorch, Tensorflow, Huggingface, Caffe
Web	Javascript, CSS, HTML5, Php

Extracurricular Activity

Lab Manager

Seoul, S.Korea

DIGITAL IMAGE MEDIA LAB IN YONSEI UNIVERSITY.LINK

Mar. 2023 - Mar. 2024

- Construct organizations, Project team building

YFORM(Yonsei Forum Of Risk Management in Yonsei University LINK)

Seoul, S.Korea

MEMBER

Mar. 2017 - Mar. 2018

- Gained expertise in probabilistic model of finance(ex. BSM formula) & risk management techniques.

Seoul Metropolitan Police Agency (LINK), Korea

Seoul, S.Korea

CYBERCRIME INVESTIGATION UNIT

Feb. 2015 - Dec. 2016

- Investigator as secondment of military service
- I was responsible for the development of automation scripts of web scrapping required for the cyber criminals investigation such as illegal pornography sites with overseas servers(SBS), hacking(YTN), and making illegal personal information acquisition(MBC,KBS)