SEONGHEON PARK

Department of Computer Sciences, University of Wisconsin-Madison, USA
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RESEARCH INTERESTS

Machine Learning, AI Safety and Reliability, Foundation Models, Out-of-Distribution Detection/Generalization

EDUCATION

University of Wisconsin-Madison *Sep. 2024 - Present*
Ph.D. in Computer Science
Advisor: Prof. Sharon Yixuan Li

Yonsei University *Sep. 2021 - Aug. 2023*
M.S. in Electrical and Electronic Engineering
Advisor: Prof. Kwanghoon Sohn

Yonsei University *Mar. 2015 - Aug. 2021*
B.S. in Electrical and Electronic Engineering

PUBLICATIONS

5. **Seongheon Park***, Hyuk Kwon*, Kwanghoon Sohn, and Kibok Lee (2024), "Rethinking Open-World Semi-Supervised Learning: Distribution Mismatch and Inductive Inference", *CVPR Workshop on Computer Vision in the Wild (CVinW)*

4. Hanjae Kim, Jiyoung Lee, **Seongheon Park**, and Kwanghoon Sohn (2023), "Hierarchical Visual Primitive Experts for Compositional Zero-Shot Learning", *IEEE/CVF International Conference on Computer Vision (ICCV)*

3. Minsu Kim, Seungryong Kim, Jungin Park, **Seongheon Park**, and Kwanghoon Sohn (2023), "PartMix: Regularization Strategy to Learn Part Discovery for Visible-Infrared Person Re-identification", *IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR)*

2. **Seongheon Park**, Hanjae Kim, Minsu Kim, and Kwanghoon Sohn (2023), "Normality Guided Multiple Instance Learning for Weakly Supervised Video Anomaly Detection", *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*

1. Dahye Kim, Jiyoung Lee, Jungin Park, **Seongheon Park**, and Kwanghoon Sohn (2023), "Language-free Training for Zero-shot Video Grounding", *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*

PROJECTS

1. **Project with Korea Institute of Science and Technology (KIST)** *Jan. 2022 - Aug. 2023*
   - Project Title : Deep Identification and Tracking of Missing Persons in Heterogeneous CCTV
   - Covers : Object Detection/Tracking, Video Action Classification, Person Re-Identification, Anomaly Detection
2. **Project with Ministry of Science and ICT, Mid-Level Research** *Jan. 2022 - Aug. 2023*
   - Project Title : Development of Complex Situational Awareness and Prediction Technology through Multi-Modal Data Fusion and Social Artificial Intelligence
   - Covers : Multi-Modal Learning, Video Understanding
3. **Project with Yonsei University-Yonsei Signature Research Cluster** *Jan. 2022 - Jan. 2023*
   - Project Title : Development of Multimodal-based General-purpose Social Artificial Intelligence Technology
   - Covers : Multi-Modal Learning, Zero-Shot Learning, Meta-Learning

PATENTS

1. Korean Patent, No.10-2022-0156145 (Anomaly Detection)

2. Korean Software, No.2022-0049 (Anomaly Detection)

HONORS AND SCHOLARSHIPS

Honors

- Honors Student, Yonsei University *2016, 2018-2019*

Scholarships

- Teaching Assistant Scholarship, Yonsei University *2022*
- Research Assistant Scholarship, Yonsei University *2021 - 2023*
- Brain Korea 21 (BK21) Scholarship , National Research Foundation of Korea *2021 - 2023*
- Future Vehicula Technology Scholarship, Inter-University Alliance *2021 - 2023*
- Academic Excellence Scholarship, Yonsei University *2019*

RESEARCH EXPERIENCES

University of Wisconsin–Madison, USA *Sep. 2024 - Present*
Research Assistant (Advisor: Prof. Sharon Yixuan Li)

Machine Learning Lab., Yonsei University, South Korea *Sep. 2023 - Aug. 2024*
Research Assistant (Advisor: Prof. Kibok Lee)

Digital Image Media Lab., Yonsei University, South Korea *Sep. 2021 - Aug. 2023*
Research Assistant (Advisor: Prof. Kwanghoon Sohn)

Digital Image Media Lab., Yonsei University, South Korea *Jan. 2021 - Aug. 2021*
Undergraduate Research Intern (Advisor: Prof. Kwanghoon Sohn)

Multi-Dimensional Insight Lab., Yonsei University, South Korea *Jan. 2019 - Mar. 2019*
Undergraduate Research Intern (Advisor: Prof. Sanghoon Lee)

WORK EXPERIENCES

Republic of Korea Army Logistics Command (Military Service) *Jul. 2019 - Jan. 2021*
Sergeant - Led a squad of soldiers, ensuring their training and adherence to military protocols

TEACHING EXPERIENCES

- EEE 3313: Introduction to Digital Labs *Fall 2022*
- EEE 4420: Digital Signal Processing *Spring 2022*
- EEE 6321: Image Coding *Spring 2022*

SELECTED COURSEWORK

Electrical and Electronic Engineering: Data structure (A), linear algebra (A), probability and random variables (A), random process (A), special topics for deep learning (A), probabilistic robotics (A), reinforcement learning (A), optimization theory (A), information theory (A), pattern recognition (A), artificial intelligence (A)

Others: Deep learning for computer vision (A), mathematical statistics (A), Bayesian statistics (A)

LANGUAGE

Korean (native), English (fluent), Japanese (JLPT N1)