DAHYE KIM

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RESEARCH INTERESTS

Computer Vision: Video Understanding, Vision-Language Understanding, Anomaly Detection
Machine Learning: Open-set/OOD Learning, Learning with Limited Labeled Data

EDUCATION

Yonsei University — Seoul, South Korea
M.S. Candidate of Electrical & Electronic Engineering — *Sep. 2022 - Aug. 2024 (Expected)*
- Advisor: Prof. Kwanghoon Sohn
- Cumulative GPA: 3.9/4.0

Yonsei University — Seoul, South Korea
B.S. of Electrical & Electronic Engineering — *Mar. 2020 - Aug. 2022*
- Cumulative GPA: 4.0/4.0 (Class Rank: 2/224)

Hongik University — Seoul, South Korea
Electronic & Electrical Engineering — *Mar. 2018 - Feb. 2020*
- Cumulative GPA: 3.77/4.0

HONORS AND SCHOLARSHIPS

Honors

- High Honors Student (Top 3% of department) — *Fall 2020, Spring 2021, Fall 2021*
- Honors Student (Top 10% of department) — *Spring 2020*

Scholarships

- Brain Korea 21 (BK21) Scholarship, National Research Foundation of Korea — *Sep. 2022 - Present*
- Automotive System IC Scholarship, Automotive System IC Fusion Human Resource Research Center — *Sep. 2022 - Present*
- Teaching Assistant Scholarship, Yonsei University ($ 3,500 total) — *Fall 2022, Fall 2023*
- Graduate Student Research Assistant Scholarship, Yonsei University ($ 3,500) — *Fall 2022*
- Academic Excellence Scholarship, Yonsei University ($ 3,600 total) — *Spring 2021, Fall 2021*
- National Science and Technology Scholarship ($ 3,600), National Research Foundation of Korea — *Fall 2020*
- Academic Excellence Scholarship, Hongik University ($ 6,300 total) — *Fall 2018, Spring 2019, Fall 2019*

WORKING PAPERS

1. **Dahye Kim**, Jungin Park, and Kwanghoon Sohn (2024), "Hierarchical Token Merging for Weakly Supervised Video Grounding," *In Progress*

PUBLICATIONS

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

2. Seongheon Park, Hanjae Kim, Minsu Kim, **Dahye 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)*

TEACHING EXPERIENCES

Introductory Digital Labs — *Fall 2023*
Signals and Systems — *Fall 2022*

RESEARCH EXPERIENCES

Research Assistant *Sep. 2022 – Present*
Digital Image Media Lab., Yonsei University

- Multi-modal Learning with Visual and Textual Representation
- Learning with Limited Labeled Data (Weakly-Supervised, Semi-Supervised, Zero-Shot Learning)
- Anomaly Detection and Open-Set Recognition for Computer Vision

Undergraduate Research Assistant *Jan. 2021 - Aug. 2022*
Digital Image Media Lab., Yonsei University

- Human-object Interaction (HOI) Detection
- Vision-Language Understanding
- Video Understanding

PROJECTS

Yonsei University-Yonsei Signature Research Cluster *Sep. 2022 - Present*

- Project Title: Development of Multimodal-based General-purpose Social Artificial Intelligence Technology
- Scope: Multi-Modal Learning, Zero-Shot Learning, Meta-Learning

Ministry of Science and ICT, Mid-Level Research *Sep. 2022 - Aug. 2023*

- Project Title: Development of Complex Situational Awareness and Prediction Technology through Multi-Modal Data Fusion and Social Artificial Intelligence
- Scope: Multi-modal Learning, Video Understanding

Korea Institute of Science and Technology (KIST) *Sep. 2022 - Aug. 2023*

- Project Title: Deep Identification and Tracking of Missing Person in Heterogeneous CCTV
- Scope: Object Detection, Object Tracking, Person Re-Identification, Anomaly Detection

SELECTED COURSEWORK

Artificial Intelligence: Introduction Artificial Intelligence, Intelligent Control, Multimodal Deep Learning, Neural Network, Digital Image Processing, Medical Imaging System and its Application for Artificial Intelligence, Topics in Computer Vision, and Special Topics for Deep Learning

Mathematics: Linear Algebra, Mathematical Statistics, Probability and Random Variables, Random Process, Optimization Theory, and Information Theory

Programming: Data Structure and Algorithms, and Operating Systems

OTHER SKILLS

Language and Tools: Python, MATLAB, C/C++, Linux Shell, LaTeX
Libraries: Pytorch, TensorFlow, Keras, Scikit-Learn, Numpy, Jupyter, etc

PATENTS

Korean Patent No. 10-2023-0054355 (Video Moment Retrieval)