

Minji Kim

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I am a 5th-year PhD student at [SNU Computer Vision Lab](#), under the guidance of [Prof. Bohyung Han](#). I am passionate about **designing cutting-edge deep neural networks for video understanding**, aiming to capture object, scene, and temporal dynamics at the level of human perception. To this end, my research focuses on: **Video Understanding, Video Action Recognition, Object Tracking, Multimodal Learning, and (Large) Vision-Language Models**.

EDUCATION

Ph.D. in Electrical and Computer Engineering, Seoul National University Advisor: Prof. Bohyung Han	Mar 2020 — Present <i>Seoul, Korea</i>
B.S. in Electrical and Electronics Engineering, Konkuk University GPA 4.31/4.50, Major GPA 4.43/4.50, Rank 2/86	Mar 2016 — Feb 2020 <i>Seoul, Korea</i>

WORK EXPERIENCE

NAVER AI Lab — Research Intern	Oct 2023 — Apr 2024 <i>Seongnam, Korea</i>
<ul style="list-style-type: none">Mentors: Taekyung Kim and Dongyoon Han at Backbone Research teamWorked on enhancing CLIP's video understanding capability by integrating long-range temporal informationAchieved SOTAs in 5 open-vocabulary action recognition benchmarks (Kinetics400/600, SSV2, HMDB51, UCF101)Published Temporally Contextualized CLIP (TC-CLIP) at ECCV 2024 [1]	

PUBLICATIONS

[1] Leveraging Temporal Contextualization for Video Action Recognition Minji Kim , Dongyoon Han , Taekyung Kim , Bohyung Han	ECCV 2024
[2] Towards Sequence-Level Training for Visual Tracking Minji Kim* , Seungkwan Lee* , Jungseul Ok , Bohyung Han , Minsu Cho (*Equal Contribution)	ECCV 2022
[3] Online Hybrid Lightweight Representations Learning: Its Application to Visual Tracking Ilchae Jung , Minji Kim , Eunhyeok Park , Bohyung Han	IJCAI 2022
[4] Top-down Thermal Tracking Based on Rotatable Elliptical Motion Model for Intelligent Livestock Breeding Minji Kim , Wonjun Kim	Multimedia Systems 2020

RESEARCH PROJECTS

LLMs for Video Understanding (Ongoing)	Present
Tuning CLIP for Video Action Recognition [1] <ul style="list-style-type: none">TC-CLIP: Internship project at NAVER AI Lab (see Work Experience section)	Oct 2023 — Jul 2024
Tiny Object Detection in EO/IR Images <ul style="list-style-type: none">Funded by the Agency for Defense Development (ADD)Developed a multispectral data augmentation technique for training a unified EO/IR detection model	Jan 2022 — May 2023
Sequence-Level Training for Object Tracking [2] <ul style="list-style-type: none">Proposed a reinforcement learning-based training strategy to resolve the training-testing inconsistency of trackersImproved tracking accuracy by up to 12%p only through RL fine-tuning, without modifying the architecture	Apr 2021 — Oct 2022

HONORS & AWARDS

Qualcomm Innovation Fellowship Korea (Winner) , Qualcomm Technologies Inc. <i>Leveraging Temporal Contextualization for Video Action Recognition (ECCV 2024)</i> [1]	Dec 2024
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IPIU Best Paper Award <i>Towards Sequence-Level Training for Visual Tracking (ECCV 2022) [2]</i>	Feb 2023
IPIU Undergraduate Best Paper Award <i>Top-down Thermal Tracking Based on Rotatable Elliptical Motion Model for Intelligent Livestock Breeding [4]</i>	Feb 2019
Intel FPGA Design Contest (3rd Place) , Intel Korea Ltd. <i>Video Stabilization Based on Heterogeneous Computing Using OpenCL</i>	Dec 2017
Academic Excellence Scholarship , Konkuk University	2016 — 2019

TEACHING EXPERIENCE

Samsung Electronics — Teaching Assistant

- Samsung AI Expert: Real-Time Video Object Segmentation for Automated Bottle Replacement Sep 2024 — Nov 2024
- Samsung AI Academy, Advanced Course: Real-Time Visual Object Tracking Jul 2020
- Samsung AI Academy, Advanced Course: Real-Time Visual Object Tracking May 2020

Seoul National University — Teaching Assistant

- Dependable Deep Neural Networks (Prof. Bohyung Han) Spring 2022
- Data Structures (Prof. Bohyung Han) Fall 2021

ACADEMIC SERVICE

Conference Reviewer	CVPR 2025, AAI 2025 ECCV 2024, NeurIPS 2024 Workshop on Video-Language Models, WACV 2024 CVPR 2023, ICCV 2023, NeurIPS 2023
Journal Reviewer	TPAMI, MVAP

LEADERSHIP

President of BOOT&4DIM Electronics Engineering Academic Club, Konkuk University	2018
<ul style="list-style-type: none"> • Delivered seminars for Image Processing with OpenCV, C/C++ Programming, and Data Structures • Mentored junior teams in embedded software projects and algorithm competitions 	

OTHER RESEARCH EXPERIENCE

Computer Vision Lab, Seoul National University — Student Research Intern	Jun 2019 — Sep 2019
<ul style="list-style-type: none"> • Developed an ensemble framework of object trackers, advised by Prof. Bohyung Han 	
Deep Computer Vision Lab, Konkuk University — Student Research Intern	Jan 2018 — Apr 2019
<ul style="list-style-type: none"> • Developed a deformable multi-object tracking framework using thermal sensors based on Kalman filter [4] • Conducted research on low-light image enhancement with singular value decomposition (B.S. thesis) 	

SKILLS

Tools and Languages	PyTorch, Python, C/C++, MATLAB, Git, Docker, \LaTeX
Communication	Korean (Native), English (Fluent, TOEFL 104/120)

REFERENCE

Advisor: Prof. Bohyung Han

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