Manjin Kim

POSITION **Ph.D candidate**
Department of Convergence IT Engineering
Pohang University of Science and Technology (POSTECH)

CONTACT
INFORMATION
Posvile, 6 - 401
83, Jigok-ro, Nam-gu
Pohang, Gyeongbuk, 37666
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CITIZENSHIP The Republic of Korea

RESEARCH
INTERESTS
Computer vision and deep learning,
especially, video action recognition and motion representation learning

EDUCATION **Pohang University of Science and Technology (POSTECH)**, Pohang, Korea

Ph.D student (Unified master's and doctor's course) **Sep 2019 − now**
- Advisor: Prof. Minsu Cho
- Anticipated graduation dates: **Feb 2026**

Pohang University of Science and Technology (POSTECH), Pohang, Korea

B.S. Degree **Mar 2013 − Aug 2019**
- Major: Department of Creative IT Engineering
- Advisor: Prof. Sangwoo Kim

INTERNATIONAL
PUBLICATIONS
Manjin Kim, Heeseung Kwon, Karteek Alahari, and Minsu Cho. "Exploring High-Order Self-Similarity for Video Understanding." *under review.*

Jaejun Hwang*, Dayoung Gong*, **Manjin Kim**, and Minsu Cho. "Generic Event Boundary Detection via Denoising Diffusion." *under review.*
* equal contribution

Manjin Kim, Paul Hongsuck Seo*, Cordelia Schmid, and Minsu Cho*. "Learning correlation structures for vision transformers." *CVPR.* 2024.
* co-corresponding authors

Dayoung Kong, Junseok Lee, **Manjin Kim**, and Minsu Cho. "Future transformer for long-term action anticipation." *CVPR.* 2022.

Manjin Kim*, Heeseung Kwon*, Chunyu Wang, Suha Kwak, and Minsu Cho. "Relational self-attention: what's missing in attention for video understanding." *NeurIPS.* 2021.
* equal contribution

Heeseung Kwon*, **Manjin Kim***, Suha Kwak, and Minsu Cho. "Learning self-similarity in space and time as a generalized motion for action recognition." *ICCV.* 2021.
* equal contribution

Heeseung Kwon, **Manjin Kim**, Suha Kwak, and Minsu Cho. "MotionSqueeze: neural motion feature learning for video understanding." *ECCV.* 2020.

INDUSTRY EXPERIENCE	**Google Research**, Grenoble, France *Student Researcher* **Jul 2022 – Jan 2023**

INDUSTRY
EXPERIENCE

Google Research, Grenoble, France
Student Researcher   **Jul 2022 – Jan 2023**
- Developed a multimodal long-form video captioning system.
- Mentor: Paul Hongsuck Seo

Microsoft Research Asia (MSRA), remote
Research Intern   **Dec 2020 – June 2021**
- Developed a dynamic neural feature transform method, called a relational self-attention.
- Mentor: Chunyu Wang

LG CNS, Seoul, Korea
Research Intern   **Jun 2018 – Aug 2018**
- Developed video data augmentation program using CycleGAN.

JOINED
PROJECTS

Motion-centric video representation learning (with Google Research)
- Developed vision transformers, dubbed StructViT, that effectively learn spatial(-temporal) correlation structures for both image and video understanding.

Online action detection in streamed videos (with POSCO ICT Company)
- Implemented real-time anomaly action recognition system for video surveillance.

Sentimental analysis on Hyundai vehicle models (with Hyundai Motor Company)
- Analyzed sentiment of Hyundai vehicle models from comments on web communities.

CERTIFICATES

Linux Master 1st class, Korea Association for ICT promotion,   **May 2018**

Industrial Engineer Information Processing,
Human Resources Development Service of Korea,   **Dec 2017**

MILITARY
OBLIGATION

The 1st Fighter Wings, Information & communication Battalion, Gwangju, Korea
Staff Sergeant, the information security specialist   **Apr 2016 – Apr 2018**
- Carried out the obligatory duty of national defense.

PROGRAMMING
LANGUAGES

Python, Java, C, C++, Pytorch, Tensorflow

LANGUAGE SKILLS   Korean(native), English(advanced)

REFEREES

Minsu Cho, Professor
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