HUIWON JANG

Github: https://github.com/huiwon-jang
Homepage: https://huiwon-jang.github.io
E-mail: huiwoen0516@kaist.ac.kr

RESEARCH INTERESTS

My research mainly focuses on visual representation learning, which enables models to perceive visual content and ultimately understand the world. In particular, my recent research interest focuses on self-supervised learning and visual tokenization for visual generation and understanding.

EDUCATION

Mar. 2023 – Present	Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea **PhD in Artificial Intelligence** Advisor: Prof. Jinwoo Shin
Mar. 2019 – Feb. 2023	Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea **B.S. in Mathematical Science & Computer Science (Double Major)**

PUBLICATIONS

C: Conference, **P**: Preprint, *: Equal contribution

[P2] Efficient Long Video Tokenization via Coordinate-based Patch Reconstrution

Huiwon Jang, Sihyun Yu, Jinwoo Shin, Pieter Abbeel, Younggyo Seo

- Arxiv preprint, 2024

[C6] Representation Alignment for Generation: Training Diffusion Transformers Is Easier Than You Think

Sihyun Yu, Sangkyung Kwak, **Huiwon Jang**, Jongheon Jeong, Jonathan Huang, Jinwoo Shin, Saining Xie

- International Conference on Learning Representations (**ICLR**), 2025

[C5] TrackIME: Enhanced Video Point Tracking via Instance Motion Estimation

Seong Hyeon Park, **Huiwon Jang**, Byungwoo Jeon, Sukmin Yun, Paul Hongsuck Seo, Jinwoo Shin

- Conference on Neural Information Processing Systems (**NeurIPS**), *Spotlight Presentation*, 2024

[C4] Adversarial Robustification via Text-to-Image Diffusion Models

Daewon Choi*, Jongheon Jeong*, **Huiwon Jang**, Jinwoo Shin

- European Conference on Computer Vision (**ECCV**), *Oral Presentation*, 2024

[C3] Visual Representation Learning with Stochastic Frame Prediction

Huiwon Jang, Dongyoung Kim, Junsu Kim, Jinwoo Shin, Pieter Abbeel, Younggyo Seo

- International Conference on Machine Learning (**ICML**), 2024

[C2] Modality-agnostic Self-supervised Learning with Meta-learned Masked Auto-encoder

Huiwon Jang*, Jihoon Tack*, Daewon Choi, Jongheon Jeong, Jinwoo Shin

- Conference on Neural Information Processing Systems (**NeurIPS**), 2023

[C1] Unsupervised Meta-learning via Few-shot Pseudo-supervised Contrastive Learning

Huiwon Jang*, Hankook Lee*, Jinwoo Shin

- International Conference on Learning Representations (**ICLR**), *Spotlight presentation*, 2023
- Neural Information Processing Systems Workshop on Meta-Learning (**NeurIPSW-MetaLearn**), 2022

[P1] AltUB: Alternating Training Method to Update Base Distribution of Normalizing Flow for Anomaly Detection

Yeongmin Kim*, **Huiwon Jang***, Dongkeon Lee, Hojin Choi

- Arxiv preprint, 2022

EXPERIENCES

Research Intern · Seoul, Korea
i-SENS, CGMS Algorithm Team · Oct. 2022 − Oct. 2023
- Time-series regression, and forecasting
- Self-supervised learning for time-series

Undergraduate Research Intern · Daejeon, Korea
Algorithmic Intelligence Laboratory (ALIN-LAB), KAIST AI. · Jun. 2021 − Feb. 2023
Advisor: Prof. Jinwoo Shin
- Unsupervised meta-learning via self-supervised learning for few-shot image classification ([C1])

AWARDS & HONORS

Travel Awards, ICML 2024 · Jul. 2024

Travel Awards, NeurIPS 2023 · Dec. 2023

Travel Awards, ICLR 2023 · May. 2023

Travel Awards, Google Conference Scholarships (APAC) · May. 2023

INVITED TALKS

Modality-agnostic Self-supervised Learning with Meta-learned Masked Auto-encoder
Samsung Electronics Device Solution (DS) · Suwon, Korea. Oct. 2024
Samsung AI Forum (SAIF) 2023 · Suwon, Korea. Nov. 2023
Samsung Advanced Institute of Technology (SAIT) · Suwon, Korea. Jun. 2023

Unsupervised Meta-learning via Few-shot Pseudo-supervised Contrastive Learning
International Conference on Learning Representations (ICLR) · Kigali, Rwanda. May. 2023