Dong Hoon Lee

Contact Information

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Research Interests

I am broadly interested in making vision models more efficient—faster, lighter, and cheaper—by reducing data requirements and computational costs. I am also interested in representation learning without supervision and have contributed to some projects.

Few-shot Learning, Efficient Vision Transformers, Self-supervised Learning

Education

Ph.D., Kim Jaechul Graduate School of AI — *Mar. 2018 – Expected Feb. 2026*
Korea Advanced Institute of Science and Technology, Daejeon, Republic of Korea

M.S., Electrical Engineering — *Feb. 2018*
Korea Advanced Institute of Science and Technology, Daejeon, Republic of Korea

B.S., Electrical Engineering — *Feb. 2016*
Korea Advanced Institute of Science and Technology, Daejeon, Republic of Korea

Korea Science Academy, Busan, Republic of Korea — *Feb. 2012*

Honors

Korea Government Fellowship — *March 2012 to 2026*
Qualcomm Innovation Fellowship, 2021 South Korea Finalist — *2021*
NeurIPS 2022 Scholar Award — *2022*

Experience

Research Intern, LG AI Research, Seoul, Korea — *April 2022 to October 2022*

Publication

[C] Conference [P] Preprint

[C1] **Dong Hoon Lee** and Song Chong, "*Learning based Utility Maximization for Multi-resource Management*", International Conference on Future Internet Technologies (CFI) 2018.

[C2] **Dong Hoon Lee** and Sae-Young Chung, "*Unsupervised Embedding Adaptation via Early-Stage Feature Reconstruction for Few-Shot Classification*", in International Conference on Machine Learning (ICML) 2021.

[C3] **Dong Hoon Lee**, Sungik Choi, Hyunwoo Kim, and Sae-Young Chung, "*Unsupervised Visual Representation Learning via Mutual Information Regularized Assignment*", in Neural Information Processing Systems (NeurIPS), 2022.

[C4] **Dong Hoon Lee** and Seunghoon Hong, "*Learning to Merge Tokens via Decoupled Embedding for Efficient Vision Transformers*", in Neural Information Processing Systems (NeurIPS), 2024.

[C5] Whie Jung, **Dong Hoon Lee**, Seunghoon Hong, "*Disentangled Representation Learning via Modular Compositional Bias*", in Neural Information Processing Systems (NeurIPS), 2025.

[C6] Kiet T Nguyen, Chanhyuk Lee, Donggyun Kim, **Dong Hoon Lee**, Seunghoon Hong, "*Universal Few-shot Spatial Control for Diffusion Models*", in Neural Information Processing Systems (NeurIPS), 2025.

[P1] **Dong Hoon Lee** and Seunghoon Hong, "*Variable Length Tokenization via Token Merging for Flexible Diffusion Transformers*", in preparation, 2025.

Patents

[1] Song Chong, Yeongjin Kim, Jeongho Kwak, **Dong Hoon Lee**, "*Hybrid Content Caching Method and System*", Nov. 2016.

Project Experience

Scalable representation construction by self-supervision without prior task experience
National Research Foundation of Korea (NRF) *March 2021 to April 2022*

Pre-prediction Modeling for autonomous network operation
Ministry of Science, ICT and Future Planning *April 2017 to August 2018*

Versatile Network System Architecture for Multi-dimensional Diversity
Ministry of Science, ICT and Future Planning *April 2016 to November 2017*

Programming Languages

Python (PyTorch/TensorFlow)
GitHub: https://github.com/movinghoon

Languages

Korean, English

Academic Services

Conference reviewer - ICML (2022-2025), NeurIPS (2023-2025), ICLR (2025), CVPR (2023-2025), ICCV (2023-2024), ECCV (2024)

Teaching Experience

Teaching Assistant (KAIST) *Fall 2016 to Fall 2019*

- EE807 Special Topics in EE: Mathematical Foundation of Reinforcement Learning
- EE807 Special Topics in EE: Deep Reinforcement Learning and AlphaGo
- EE405 Electronics Design Lab: Robocam/Network of Smart Things
- EE210 Probability and Introductory Random Process