JIN-SEOP LEE

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EDUCATION

Sungkyunkwan University   2021.03 - Present
· Integrated MS/PhD program in Department of Artificial Intelligence (Advisor : Prof. Jee-Hyong Lee)

Sungkyunkwan University   2015.03 - 2021.02
· B.S in Department of Computer Engineering / Department of Mechanical Engineering (Double Major)

Incheon Science High School   2013.03 - 2015.02
· Mathematics / Chemistry

PUBLICATION

My research interests include various tasks in computer vision, deep learning, and machine learning. I have been conducted research on data-efficient learning methods, including self-/semi-supervised learning, weakly-supervised learning, and domain generalization, etc. Furthermore, I am currently interested in multi-modal learning, representation learning, image/video understanding, image/video synthesis, efficient AI systems.

(IJ: International Journal / DC: Domestic Journal / IC: International Conference / DC: Domestic Conference / *: equal contribution)

[Ongoing Research]

- Enhancing Vision Language Model using Reasoning with Large Language Model [will submit to NeurIPS 2025 (in 25.5)]
- Fast and Efficient Video Editing with Sparse Neural Network [will submit to NeurIPS 2025 (in 25.5)]
- Multi-Image Guidance for Video Generation or Back to the Future: Past-time Video Generation [will submit to NeurIPS 2025 (in 25.5)
- Iterative Feedback based Relation-aware Image Generation [will submit to NeurIPS 2025 (in 25.5)

[In Submission]

(IC-8) **TAG: A Simple Yet Effective Temporal-Aware Approach for Zero-Shot Video Temporal Grounding**
Conference on Computer Vision and Pattern Recognition (**CVPR**), 2025
: **Jin-Seop Lee***, SungJoon Lee*, Jaehan Ahn, YunSeok Choi, Jee-Hyong Lee

(IC-9) **Minimizing Error Accumulation for Stable Open-set Test-Time Adaptation**
Conference on Computer Vision and Pattern Recognition (**CVPR**), 2025
: Byung-Joon Lee, **Jin-Seop Lee**, Jee-Hyong Lee

(IC-10) **Effective Demonstration Retrieval for Text-to-SQL using Schema Pruning and Linking Methods**
ACL Rolling Review (**ARR**), 2024
: Jihyung Lee*, **Jin-Seop Lee***, Jaehoon Lee, YunSeok Choi, Jee-Hyong Lee

(IC-11) **BD-Net: Has depth-wise convolution ever been applied in Binary Neural Networks?**
International Conference on Computer Vision (**ICCV**), 2025
: DoYoung Kim, **Jin-Seop Lee**, Noo-ri Kim, Jee-Hyong Lee

(IC-12) **Harnessing Off-the-Shelf Model for Training-free Partially Relevant Video Retrieval**
International Conference on Computer Vision (**ICCV**), 2025
: **Jin-Seop Lee***, SungJoon Lee*, Jaehan Ahn, YunSeok Choi, Jee-Hyong Lee

[2025]

(IC-6) **Feature-level and Spatial-level Activation Expansion for Weakly-Supervised Semantic Segmentation**
Winter Conference on Applications of Computer Vision (**WACV**), 2025
: Junsu Choi*, **Jin-Seop Lee***, Noo-ri Kim, SuHyun Yoon, Jee-Hyong Lee

(IC-7) **DomCLP: Domain-wise Contrastive Learning with Prototype Mixup for Unsupervised Domain Generalization**
The 39th Annual AAAI Conference on Artificial Intelligence (**AAAI**), 2025
: **Jin-Seop Lee**, Noo-ri Kim, Jee-Hyong Lee

[2024]

(IJ-3) **Automation of Trimming Die Design Inspection by Zigzag Process Between AI and CAD Domains**
Jin-Seop Lee*, Tae-Hyun Kim*, Sang-Hwan Jeon, Sung-Hyun Park, Sang-Hi Kim, Eun-Ho Lee, Jee-Hyong Lee
Engineering Applications of Artificial Intelligence (**EAAI**), TOP 5, IF 8.0

(IC-2) **Learning with Structural Labels in Learning with Noisy Labels**
Noo-ri Kim*, **Jin-Seop Lee***, Jee-Hyong Lee
Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024

(IC-3) **ExMatch: Semi-Supervised Learning with Scarce Labeled Samples with Additional Exploitation of Unlabeled Samples**
Noo-ri Kim, **Jin-Seop Lee**, Jee-Hyong Lee
European Conference on Computer Vision (**ECCV**), 2024

(IC-4) **IGNORE: Information Gap-based False Negative Loss Rejection for Single Positive Multi-Label Learning**
Gyeong Ryeol Song, Noo-ri Kim, **Jin-Seop Lee**, Jee-Hyong Lee
European Conference on Computer Vision (**ECCV**), 2024

(IC-5) **CAFTTA: Mitigating Unseen Class Forgetting in Test-Time Adaptation with Knowledge Fusion**
Byung-Joon Lee, **Jin-Seop Lee**, Jee-Hyong Lee
International Conference on Soft Computing and Intelligent Systems and International Symposium on Advanced Intelligent Systems (SCIS&ISIS), 2024

(DC-4) **Fast and Effective Inference Approach in Diffusion-based Image Inpainting without Additional Training**
Proceedings of KIIS Autumn Conference 2024 (KIIS)
: Hyun Sir Ihm, **Jin-Seop Lee**, Jee-Hyong Lee

(DC-5) **Optimization of Stable Diffusion Based on Cross Attention Map Analysis**
Proceedings of KIIS Autumn Conference 2024 (KIIS)
: Jung Hoon Kim, **Jin-Seop Lee**, YongHoon Kang and Jee-Hyong Lee

[2023]

(IJ-2) **Automatic defect classification using semi-supervised learning with defect localization**
Yusung Kim, **Jin-Seop Lee**, Jee-Hyong Lee
IEEE Transactions on Semiconductor Manufacturing

[2022]

(IJ-1) **Diffusion-based generative model study for class-imbalance mitigation**
Hyeon-Min Jang, **Jin-Seop Lee** Jee-Hyong Lee
Journal of Korean Institute of Intelligent Systems

(DC-3) **Multi Label Classification Loss Re-Weighting Considering the Distribution of Class-Imbalance Datasets**
Gyeong-Yeol Song, **Jin-Seop Lee**, Suhyeon Yoon, Jee-Hyong Lee
Conference of Korean Institute of Intelligent Systems (KIIS), 2022

[2021]

(DC-2) **Generating Psuedo-Clean-Label based on Loss Function for Noisy Label**
Suhyeon Yoon, **Jin-Seop Lee**, Jee-Hyong Lee
Conference of Korean Institute of Intelligent Systems (KIIS), 2021

[2020]

(IC-1) **Class Activation Map Pairing for Adversarial Robustness**
DongEon Jeong, MinKyu Lee, **Jin-Seop Lee**, Jee-Hyong Lee
International Conference on Convergence Content (ICCC), 2020

(DC-1) **A Study on Teacher Assisted Attention Transfer to Improve Knowledge Distillation Performance**
Jin-Seop Lee, Seok-Kyu Kang, Ho-yong Seo, and Jee-Hyong Lee
Conference of Korean Institute of Intelligent Systems (KIIS), 2020

EXPERIENCE & EDUCATION SERVICES

NVIDIA DLI(Deep Learning Institution) Ambassador

As an NVIDIA DLI Ambassador, I have been conducting training workshops for various students, including those at Sungkyunkwan University and the K-Digital Training Program.

· Generative AI with Diffusion Model (Instructor)	2024.01
· Building Conversational AI Applications	2024.01
· Fundamentals of Deep Learning (Instructor)	2022.09
· Building Transformer-Based Natural Language Processing Applications	2022.03
· Fundamentals of Deep Learning for Multi-GPUs	2022.03
· Getting Started with Deep Learning	2022.03
· Fundamentals of Accelerated Computing with CUDA C/C++	2021.07

Korea-Massive Open Online Course (K-MOOC)

· Teaching Assistant	2020.03 - Present

AWARDS

Korea Olympiad in Chemistry
· 5th Price	2012

Korea Olympiad in Informatics
· 3rd Price	2009

Baduk(Go)
· Amateur 1st degree	2004

SCHOLARSHIP

AI Graduate School Excellence Scholarship

· Half scholarship at SKKU   2021.03 - Present

Dean's List

· Award for excellent academic performance at SKKU   2020

Full Scholarship

· Science talent scholar at SKKU   2015.03 - 2021.02

PROJECT

Development of Flexible SW-HW Conjunctive Solution for On-edge Self-supervised Learning   IITP

· Researcher   2023.04 - Present

Development of Self-directed Artificial Intelligence Technology for Open Domain Multimodal Learning   IITP

· Researcher   2022.03 - Present

Development of Automatic Inspection Program through AI   HYUNDAI NGV

· Researcher & Developer   2020.06 - 2022.02