JIN-SEOP LEE

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RESEARCH INTEREST

(1) **Multi-modal Understanding**: Streaming Video Understanding, Video Temporal Grounding, Video Corpus Retrieval, Implicit Reasoning

(2) **Agentic AI**: Efficient Memory Management, Self-evolving AI, Lifelong Learning, Open-ended Learning, Test-Time Adaptation

(3) **Physical AI**: Proactive Actioning VLA, Self-Reflection, Data-efficient Learning

(4) **Data-efficient and Robust Learning**: Self-/Semi-/Weakly-supervised Learning, Domain Generalization

RESEARCH EXPERIENCE

Visiting Researcher @ NTU 2025.12 - 2026.02

· Mentor: Prof. Boyang Albert Li and Prof. Jaehong Yoon
· Project: "Understanding Proactive Responding for Streaming Video Settings"

EDUCATION

M.S. & Ph.D. @ Sungkyunkwan University 2021.03 - Present

· Advisor: Prof. Jee-Hyong Lee
· Co-advisor: Prof. JinYeong Bak
· Major: Department of Artificial Intelligence

B.S. @ Sungkyunkwan University 2015.03 - 2021.02

· Double Major-1: Department of Mechanical Engineering
· Double Major-2: Department of Computer Engineering

Incheon Science High School 2013.03 - 2015.02

· Major: Mathematics / Chemistry

PUBLICATION

[International Conference / Journal]

<2026>

[16] Jaehoon Lee, CheolWon Na, Suyoung Bae, **Jin-Seop Lee**, Jihyung Lee, YunSeok Choi, Jee-Hyong Lee, "EXPO-SQL: Execution-based Clause-level Policy Optimization for Text-to-SQL", Preprint, 2026

<2025>

[15] **Jin-Seop Lee***, Sungjoon Lee*, Jee-Hyong Lee, "Learning to Refuse: Refusal-Aware Reinforcement Fine-Tuning for Hard-Irrelevant Queries in Video Temporal Grounding", Preprint, 2026

[14] Joohyeon Lee*, **Jin-Seop Lee***, Jee-Hyong Lee, "CountCluster: Training-Free Object Quantity Guidance with Cross-Attention Map Clustering for Text-to-Image Generation", Preprint, 2026

[13] Doyoung Kim, **Jin-Seop Lee**, Jee-Hyong Lee, "BD-Net: Has depth-wise convolution ever been applied in Binary Neural Networks?", **AAAI 2026**

[12] **Jin-Seop Lee***, Sungjoon Lee*, Jaehan Ahn, Yunseok Choi, Jee-Hyong Lee, "TAG: A Simple Yet Effective Temporal-Aware Approach for Zero-Shot Video Temporal Grounding", **BMVC 2025**

[11] Byung-Joon Lee, **Jin-Seop Lee**, Jee-Hyong Lee, "Stabilizing Open-Set Test-Time Adaptation via Primary-Auxiliary Filtering and Knowledge-Integrated Prediction", **BMVC 2025**

[10] Jihyung Lee*, **Jin-Seop Lee***, Jaehoon Lee, YunSeok Choi, Jee-Hyong Lee, "DCG-SQL: Enhancing In-Context Learning for Text-to-SQL with Deep Contextual Schema Link Graph", **ACL 2025**

<2024>

[9] **Jin-Seop Lee**, Noo-ri Kim, Jee-Hyong Lee, "DomCLP: Domain-wise Contrastive Learning with Prototype Mixup for Unsupervised Domain Generalization", **AAAI 2025**

[8] Junsu Choi*, **Jin-Seop Lee***, Noo-ri Kim, SuHyun Yoon, Jee-Hyong Lee, "Feature-level and Spatial-level Activation Expansion for Weakly-Supervised Semantic Segmentation", **WACV 2025**

[7] Byung-Joon Lee, **Jin-Seop Lee**, Jee-Hyong Lee, "CAFTTA: Mitigating Unseen Class Forgetting in Test-Time Adaptation with Knowledge Fusion", SCIS&ISIS 2024

[6] Gyeong Ryeol Song, Noo-ri Kim, **Jin-Seop Lee**, Jee-Hyong Lee, "IGNORE: Information Gap-based False Negative Loss Rejection for Single Positive Multi-Label Learning", **ECCV 2024**

[5] Noo-ri Kim, **Jin-Seop Lee**, Jee-Hyong Lee, "ExMatch: Semi-Supervised Learning with Scarce Labeled Samples with Additional Exploitation of Unlabeled Samples", **ECCV 2024**

[4] Noo-ri Kim*, **Jin-Seop Lee***, Jee-Hyong Lee, "Learning with Structural Labels in Learning with Noisy Labels", **CVPR 2024**

<Before 2023>

[3] **Jin-Seop Lee***, Tae-Hyun Kim*, Sang-Hwan Jeon, Sung-Hyun Park, Sang-Hi Kim, Eun-Ho Lee, Jee-Hyong Lee, "Automation of Trimming Die Design Inspection by Zigzag Process Between AI and CAD Domains", **Engineering Applications of Artificial Intelligence**, 2024 (TOP 3%, IF 8.0)

[2] Yusung Kim, **Jin-Seop Lee**, Jee-Hyong Lee, "Automatic defect classification using semi-supervised learning with defect localization", IEEE Transactions on Semiconductor Manufacturing, 2023

[1] DongEon Jeong, MinKyu Lee, **Jin-Seop Lee**, Jee-Hyong Lee, "Class Activation Map Pairing for Adversarial Robustness", ICCC 2020

[Domestic Conference / Journal]

<2025>

[9] Hyun Sir Ihm, **Jin-Seop Lee**, Jee-Hyong Lee, "Training-Free Unconditional-Boosted Guidance Scheduling for Long-Tailed Diffusion Models", CKAIA 2025

<2024>

[8] Jung Hoon Kim, **Jin-Seop Lee**, YongHoon Kang, Jee-Hyong Lee, "Optimization of Stable Diffusion Based on Cross Attention Map Analysis", KIIS Autumn 2024

[7] Hyun Sir Ihm, **Jin-Seop Lee**, Jee-Hyong Lee, "Fast and Effective Inference Approach in Diffusion-based Image Inpainting without Additional Training", KIIS Autumn 2024

[5] Heejae Yang, Jaehoon Lee, **Jin-Seop Lee**, Jee-Hyong Lee, "Missing Modaltiy Reconstruction Method via Similarity Search", KIIS Spring 2024

<Before 2023>

[4] Gyeong-Yeol Song, **Jin-Seop Lee**, Suhyeon Yoon, Jee-Hyong Lee, "Multi Label Classification Loss Re-Weighting Considering the Distribution of Class-Imbalance Datasets", KIIS Conference 2022

[3] Hyeon-Min Jang, **Jin-Seop Lee**, Jee-Hyong Lee, "Diffusion-based generative model study for class-imbalance mitigation", Journal of KIIS, 2022

[2] Suhyeon Yoon, **Jin-Seop Lee**, Jee-Hyong Lee, "Generating Psuedo-Clean-Label based on Loss Function for Noisy Label", KIIS Conference 2021

[1] **Jin-Seop Lee**, Seok-Kyu Kang, Ho-yong Seo, Jee-Hyong Lee, "A Study on Teacher Assisted Attention Transfer to Improve Knowledge Distillation Performance", KIIS Conference 2020

EXPERIENCE & EDUCATION SERVICES

SKKU AI - Doctoral Colloquium 2025.12

· Title: "Robust and Generalized Learning in Real-world Scenarios"

NVIDIA DLI Ambassador 2021.07 - Present

Conducted training workshops and K-Digital Training Programs with Fast Campus, Alice, Hancom Academy, Leaders Systems, and NVIDIA

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

Korea-Massive Open Online Course (K-MOOC) 2020 - 2023

· Teaching Assistant

Academy Reviewer 2024 - Present

· CVPR, ICCV, ECCV, AAAI

AWARDS & HONORS

Ph.D. Fellowship Winner @ National Research Foundation of Korea 2025.09 - Present

· Title: Development Core Technology for Efficient Reasoning of Multimodal Generative AI Models

Korea Olympiad in Chemistry 2012

· 5th Price

Korea Olympiad in Informatics 2009

· 3rd Price

Baduk(Go) 2004

· Amateur 1st degree

SCHOLARSHIP

AI Graduate School Excellence Scholarship

· Half scholarship @ SKKU ($15,000) 2021.03 - Present

Dean's List

· Award for excellent academic performance @ SKKU 2020

Full Scholarship

· Science talent scholar @ SKKU ($28,000) 2015.03 - 2021.02