Dongsik Yoon

Curriculum Vitae
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https://stillrot.github.io/

RESEARCH INTEREST

Real-World Computer Vision (Action Recognition, Anomaly Detection in CCTV)
Synthetic Data Generation via Generative Models
Edge AI (Resource-Efficient Inference, On-Device Deployment)

EDUCATION

M.S., Electrical Engineering — Mar. 2021 - Feb. 2023
Korea University, Seoul, Korea
Dissertation: Deep Learning Framework Design via Condition Guided Learning
Advisor: Prof. Hanseok Ko (Intelligent Signal Processing Laboratory, ISPL)

B.S., ICT, Multimedia Engineering — Mar. 2015 - Feb. 2021
Baekseok University, Cheonan, Korea
Advisor: Prof. No-Yoon Kwak (Image Processing and Computer Graphics Laboratory, IPCG)
Overall GPA 4.36 / 4.5, Major GPA 4.49 / 4.5

INDUSTRY EXPERIENCE

AI Research Engineer — May 2024 - Present
HDC LABS, Seoul, Korea
Research on CCTV-based vision systems for indoor safety (fire detection, elevator analytics)

AI Research Engineer — Jan. 2023 - May 2024
Metaverse Entertainment, Seoul, Korea
Generative AI for virtual-influencer content (image editing, voice synthesis)

PUBLICATIONS

International Conference

D. Yoon, *"Ask Before It Tells: Benchmark-to-Robot Body-Cue Transfer for a Question-First Bedside Robot",* ***IEEE/RSJ International Conference on Intelligent Robots and Systems Workshop (IROSW)****, 2026*

H. Park, J. Kim, J. Kim, ***D. Yoon****, "CHOP: Chunkwise Context-Preserving Framework for RAG on Multi Documents",* ***arXiv preprint****, 2026*

D. Yoon*, J. Kim, B. Park, S. Kim, S. Hwang, "Real-World Videos Are Not Silent: Synthesized Audio Dataset Augmentation for Multimodal Action Recognition",* ***Under review****, 2026*

D. Yoon*[*], J. Kim[*], D. Lee[*], "Resource-Efficient RGB-Only Action Recognition for Edge Deployment",* ***arXiv preprint****, 2026*

***D. Yoon**, J. Kim, "From Prompts to Deployment: Auto-Curated Domain-Specific Dataset Generation via Diffusion Models", **IEEE/CVF Winter Conference on Applications of Computer Vision Workshop (WACVW)**, 2026*

***D. Yoon**, J. Kim, "Your Super Resolution Model is not Enough for Tackling Real-World Scenarios", **International Conference on Computer Vision Workshop (ICCVW)**, 2025*

J. Kim, Y. Lee*, **D. Yoon***, C. Jung, G. Lee, "An Integrated YOLO and VLM System for Fire Detection in Enclosed Environments", **International Conference on Learning Representations Workshop (ICLRW)**, 2025*

***D. Yoon**, J. Kim, S. Song, Y. Lee, G. Lee, "OverallNet: Scale-Arbitrary Lightweight SR Model for handling 360° Panoramic Images", **SIGGRAPH Asia Posters**, 2024*

*J. Kwak, Y. Li, **D. Yoon**, D. Kim, H. Ko, "Injecting 3D Perception of Controllable NeRF-GAN into StyleGAN for Editable Portrait Image Synthesis", **European Conference on Computer Vision (ECCV)**, 2022*

***D. Yoon**, J. Kwak, Y. Li, D. Han, H. Ko, "DIFAI: Diverse Facial Inpainting using StyleGAN Inversion", **IEEE International Conference on Image Processing (ICIP)**, 2022*

*J. Kwak, Y. Li, **D. Yoon**, D. Han, H. Ko, "Generate and Edit Your Own Character in a Canonical View", **IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshop (CVPRW)**, AI for Content Creation Workshop, 2022*

***D. Yoon**, J. Kwak, Y. Li, Y. Jin, D. Han, H. Ko, "Reference Guided Image Inpainting using Facial Attributes", **British Machine Vision Conference (BMVC)**, 2021*

*J. Kwak, Y. Jin, Y. Li, **D. Yoon**, D. Kim, H. Ko, "Adverse Weather Image Translation with Asymmetric and Uncertainty-aware GAN", **British Machine Vision Conference (BMVC)**, 2021*

*Y. Li, Y. Jin, J. Kwak, **D. Yoon**, D. Han, H. Ko, "Adaptive Content Feature Enhancement GAN for Multimodal Selfie to Anime Translation", **British Machine Vision Conference (BMVC)**, 2021*

International Journal

*Y. Li, **D. Yoon**, B. Ku, H. Ko, "ConSeisGen: Controllable Synthetic Seismic Waveform Generation", **IEEE Geoscience and Remote Sensing Letters (GRSL)**, 2023 (IF 4.8, SCI-E)*

***D. Yoon**, J. Kim, V. Lorant, S. Kang, "Manipulation of Age Variation Using StyleGAN Inversion and Fine-Tuning", **IEEE Access**, 2023 (IF 3.9, SCI-E)*

***D. Yoon**, Y. Li, B. Ku, H. Ko, "Estimation of Magnitude and Epicentral Distance from Seismic Waves using Deeper CRNN", **IEEE Geoscience and Remote Sensing Letters (GRSL)**, 2023 (IF 5.3, SCI-E)*

PROJECTS

In-elevator situational awareness Jan. 2025 - Feb. 2026

Built a PoC for in-cab anomaly detection (pet detection, occupancy estimation) that triggered a HDC LABS / HDC Hyundai Industrial Development / Hyundai Elevator three-party MOU. Constructed a domain-specific synthetic + real labelling pipeline and a deployment-automation environment.

Affiliation: HDC LABS

AI fire / smoke detection for underground parking lots May 2024 - Oct. 2025

Designed a synthetic-data pipeline for CCTV-specific fire scenes; trained YOLOv8s + Florence2 VLM detector and migrated to a YOLOv8n + CLIP edge variant for Hailo dual-chip deployment. Demonstrated at Gwangmyeong Central IPARK.

Affiliation: HDC LABS

Designer-facing image generation for virtual influencers Jan. 2023 - May 2024

Curated Stable Diffusion LoRA workflows and a Gradio-based internal UI used for MAVE: / rina.8k content. Researched a two-stage StyleGAN-based face re-aging framework, published in IEEE Access.

Affiliation: Metaverse Entertainment

Expressive multi-speaker TTS Jan. 2022 - Dec. 2022

Built reference-audio-conditioned emotion control model for reading-style / dialog-style TTS (MOS +5%, Similarity-MOS +11% over baseline, n=30).

Funding: Deep Machine Laboratory (DMLAB)

Generative virtual earthquake scenarios for the Korean Peninsula Jan. 2021 - Dec. 2021

Built a GAN-based generator and verification pipeline producing M ≥ 3.0 seismic waveforms; delivered a scenario-authoring software to KMA.

Funding: Korea Meteorological Administration (KMA)

PATENTS

13 KR patents granted, 4 patent applications in progress (3 KR + 1 US) 2024 - 2026

Topics include fire detection in enclosed environments, in-elevator pet / occupancy analytics, construction-site hazard detection, domain-specific synthetic data generation, personalized object tracking, and AI-driven home agents.

See stillrot.github.io/#patents for the full list.

ACADEMIC SERVICE

Reviewer (peer-review)

ICIP 2026; ICBINB @ ICLR 2026; TAG @ CoRL 2026

Instructor, K-Digital Training | HDC LABS 2025 - 2026

Generative AI for Analytics and Service Development

GRANTS & AWARDS

Best Paper Presentation Award 2020

Korea Multimedia Society (KMS) Summer Annual Conference

Best Paper Award 2019

Joint Conference of Korea Digital Contents Society (KDCS) and Korea Institute of Information Technology (KIIT)

Gold Prize, Undergraduate Paper Competition 2019

KIIT / KDCS Joint Summer Conference

Encouragement Award 2019

Korean Institute of Communications and Information Sciences (KICS) Winter Annual Conference