Yongjun Choi

E-mail | Website | Github | LinkedIn

Research Interest

Computer Vision & Multi-modal Learning

Audio-Visual Learning; Generative Models (Diffusion); Video Understanding; 3D Scene Understanding
3D Vision and Robotics applications

Education

Ulsan National Institute of Science and Technology (UNIST) Mar. 2024 – Aug. 2026(Expected)
M.S. in Artificial Intelligence (GPA: 4.03/4.3) *Ulsan, South Korea*
Advisor: Prof. Kyungdon Joo

University Of Seoul Mar. 2018 – Feb. 2024
B.S. in Electrical And Computer Engineering (GPA: 3.98/4.5) *Seoul, South Korea*

Publications

AnyBald: Toward Realistic Diffusion-Based Hair Removal In-The-Wild
Yongjun Choi*, Seungoh Han*, Soomin Kim, Sumin Son, Mohsen Rohani, Edgar Maucourant, Dongbo Min, Kyungdon Joo
*The IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2026 · *Equal contribution*

RAC-VAD: Reference-Guided Temporal Alignment and Pairwise Comparison for Video Anomaly Detection in Display Inspection
Yongjun Choi, Gyeongsu Cho, Jinhyeok Kim, Changsu Ha, Sanggyu Biern, Kyungdon Joo
Submitted to IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2025 (Under Review)

Demonstrating a Vision-Based AI Robot for Strategic Board Games
Taehwan Kim*, Dokeun Lee*, Seonghyeon Kim*, Yongjun Choi*, Sungjun Heo, Thi Thuy Ngan Duong, Kyungdon Joo, Namhun Kim, Jeong hwan Jeon, Hyemin Ahn
*Technical Report · *Equal contribution*

Selected Projects

Realistic Hair Removal and Reconstruction in Images 2025

- Developed a robust hair removal framework primarily designed for hair transfer applications, enabling realistic and consistent bald rendering across diverse scenarios
- Served as the technical lead in implementing the core diffusion-based model and proposing the initial data augmentation pipeline for robust training
- Research project (Collaborated with Modiface)

Detecting Anomalies from normal videos 2024

- Developed a video anomaly detection system for industrial display inspection, ensuring stable defect detection during long-term multi-device operation
- Served as the technical lead, spearheading the implementation of the core proposed method and conducting all major experiments
- Industrial project (Funded by Samsung Electronics)

Gomoku AI: Demonstrating a Vision-Based AI Robot for Board Games 2024

- Built a vision-based human–robot interaction system for playing Gomoku, integrating real-time perception, RL-based decision-making, and robotic arm control
- Responsible for the entire vision module, developing the perception system that enables the robot to recognize and understand the full game state
- HRI course final project

Lang-Grouping: Object-centric semantic grouping for 3D scenes Apr. 2024 – Jun. 2024

- Designed an object-level language–3D scene understanding framework, reducing inference time compared to LangSplat
- Proposed an object-centric contrastive learning approach to enhance multi-view consistency for CLIP feature distillation in Gaussian Splatting
- 3D Vision course final project

Research Experience

Visiting Student Jan. 2025 – Jul. 2025

CARTE, MIE, University of Toronto *Toronto, Canada*

- Selected for University of Toronto AI Convergence Education Program (Supported by IITP, Korea)
- Special MEng student at MIE – completed 4 graduate-level courses with a GPA of 3.95/4.0
- Conducted research project on realistic hair removal and reconstruction on images - Collaborated with Modiface (mentor: Edgar Maucourant and Mohsen Rohani)

Graduate Research Assistant Jan. 2024 – Present

3D Vision and Robotics Lab, UNIST *Ulsan, South Korea*

- Language-guided 3D scene understanding, Video understanding, image manipulation
- Conducted industrial project with Samsung Electronics

Software Developer Intern Jun. 2023 – Aug. 2023

UPSIGHT Co., Ltd *Seoul, South Korea*

- Contributed to developing a building crack detection model integrated into diagnostic processes
- Participated in the initial development of a landlord–tenant community app using Flutter

Undergraduate Research Internship Feb. 2022 – June. 2023

Computer Vision Lab, University of Seoul *Seoul, South Korea*

- Researched Plant Classification and Class Activation Mapping (CAM)
- Studied deep learning theory & latest related papers

Awards & Honors

3rd Place, Syncathon Season 3 (AI development competition) 2023

Team finSET, served as team leader

3rd Place, Spatial Convergence Big Data Idea Competition 2023

Proposed core concept as part of the team

3rd Place, Engineering Mathematics Competition, University of Seoul 2021–2023

Awarded for three consecutive years

3rd Place, AWS DeepRacer Competition, BigData Winter Camp 2022

Hosted by Big Data Innovation Convergence

Teaching Experience

Teaching Assistant, UNIST Sep. 2024 – Dec. 2024

Introduction to AI Programming II

Teaching Assistant, UNIST Jul. 2024

Kyungnam Novatus Academia

Skills

Languages: Korean (Native), English (Proficient)

Programming: Python *(Proficient)*; C++, Dart, JavaScript *(Prior Experience)*

Framework & Library: PyTorch, NumPy, OpenCV; Flutter, React *(Prior Experience)*

Other Tools: Git, Docker, WandB, LaTeX; Figma *(Prior Experience)*

Reference

Prof. Kyungdon Joo, Professor, UNIST
Relationship: M.S. Advisor
E-mail: kyungdon@unist.ac.kr