

# Saemee Choi

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Seoul, South Korea

AI researcher and research engineer with expertise in medical imaging [J.1][I.3] and image/video generation [P.1][I.1]. Completed a Master's degree in Artificial Intelligence at KAIST, with multiple publications in top venues. Passionate and responsible in applying AI to real-world problems across healthcare, creative applications, and everyday convenience.

**keywords:** Medical AI, Image/Video Generation, Diffusion models

## TECHNICAL SKILLS

- Programming Languages:** Python, C, SQL, R, Bash
- Deep Learning Frameworks:** PyTorch, Hugging Face, Diffusers, PyTorch Lightning, Accelerate
- Systems / Infrastructure:** CUDA, SLURM, torch.distributed
- Experiment Management / Tools:** Weights & Biases (W&B), TensorBoard, Git, Conda, LaTeX
- Domains:** Medical AI, Image/Video Generation, Diffusion Models

## PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PREPRINT

[J.1] S. Kong\*, S. Choi\*, W. Cho, S. Park, J. Choo, J. Kim, S. Kim, C. Shin, "Enhancing Vertebral Fracture Prediction Using Multitask Deep Learning: Computed Tomography Imaging of Bone and Muscle" **European Radiology**, 2025 [Code]

[P.1] S. Choi\*, S. Jeong\*, J. Choo, J. Kim, "Good Noise Makes Good Edits: A Training-Free Diffusion-Based Video Editing with Image and Text Prompts" arXiv preprint arXiv:2506.12520, 2025 [Paper]

[C.2] W. Cho\*, Y. Kang\*, S. Choi\*, and J. Choo, "Training Spatial-Frequency Visual Prompts and Probabilistic Clusters for Accurate Black-Box Transfer Learning" ACM Multimedia (MM'24), 2024 [Paper]

[C.1] W. Cho\*, D. Choi\*, H. Lim\*, J. Choi, S. Choi, H. Min, S. Lim, J. Choo, "Slice and Conquer: A Planar-to-3D Framework for Efficient Interactive Segmentation of Volumetric Images" Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV'24), 2024 [Paper]

\*: Equal contribution

## INDUSTRIAL PROJECTS

[I.3] **Cephalometric Landmark and Bone Age Estimation via MLLMs** Dec. 2024 – Current  
with Asan Medical Center & KAIST AI

- Developing** a framework to predict cephalometric landmarks and assess adolescents' bone age using foundation multimodal large language models

[I.2] **AI-Driven Educational Video Generation Pipeline** Feb. 2024 – Feb. 2025  
with Iscream-media & KAIST AI

- Developed** an AI-driven pipeline that generates scene scripts, animated images, and audio for educational materials from simple text prompts, in collaboration with three KAIST AI labs
- Project Management:** Coordinated communication between labs and partners, ensuring timely progress.
- Image Module Lead:** Reproduced and improved SOTA image generation/editing models for usability
- Designed and implemented** an interactive interface and API with Gradio and FastAPI

[I.1] **AI-Based Microplastic Detection from Spectral Data** Sep. 2023 – Jul. 2024  
with Cheminet & Thermo Fisher Scientific & KAIST AI

- Developed** AI models to detect microplastics from ENVI spectral data using sequence modeling approaches.
- Improved** accuracy through advanced data preprocessing and out-of-distribution robustness techniques.
- Implemented** an algorithm to calculate microplastic particle size from 3D spectral data.
- Authored** a technical patent document describing the proposed detection framework.

## WORK EXPERIENCES

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- **LETSUR [🌐]** Mar. 2023 - Aug. 2023  
Seoul, Korea  
*AI Researcher Intern*
  - Developed advanced computer vision algorithms for AI-based solutions
  - Implemented parameter-efficient transfer learning techniques to optimize model performance

## EDUCATION

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- **Korea Advanced Institute of Science and Technology (KAIST)** Mar. 2023 - Feb. 2025  
Seoul, Korea  
*Master of Science, AI*
  - Advisor: Prof. Jaegul Choo
- **Sung Kyun Kwan University** Mar. 2019–Feb. 2023  
Seoul, Korea  
*Bachelor of Science, Data Science*
  - Honors: Magna Cum Laude (GPA: 4.23/4.5) [[Certificate](#)]