

# 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

- **LETSUR** 

*AI Researcher Intern*
  - Developed advanced computer vision algorithms for AI-based solutions
  - Implemented parameter-efficient transfer learning techniques to optimize model performance

*Mar. 2023 - Aug. 2023*  
Seoul, Korea

EDUCATION

- **Korea Advanced Institute of Science and Technology (KAIST)**

*Master of Science, AI*
  - Advisor: Prof. Jaegul Choo

*Mar. 2023 - Feb. 2025*  
Seoul, Korea
- **Sung Kyun Kwan University**

*Bachelor of Science, Data Science*
  - Honors: Magna Cum Laude (GPA: 4.23/4.5) [\[Certificate\]](#)

*Mar. 2019–Feb. 2023*  
Seoul, Korea