Hyun-Jic **Oh**

Vision AI researcher · PhD Student @ Korea University

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Summary

Ph.D. candidate in Computer Science at the High Performance Visual Computing Lab (HVCL), Korea University. My research focuses on computer vision and medical image analysis, with experience developing deep learning algorithms for image generation, segmentation, classification, and visual foundation models. I have worked on projects involving diffusion model–based data augmentation, image translation, and super-resolution, as well as foundation models (e.g., SAM) and weakly supervised learning. Recently, I have been particularly interested in leveraging diffusion model priors for advanced image processing.

Publications

Virtual Multiplex Staining for Histological Images using a Marker-wise Conditioned Diffusion Model — *AAAI 2026*

Hyun-Jic Oh, Junsik Kim, Zhiyi Shi, Yichen Wu, Yu-An Chen, Peter K. Sorger, Hanspeter Pfister, Won-Ki Jeong — *Conference*

- Association for the Advancement of Artificial Intelligence, 2026

S2L-CM: Scribble-supervised Nuclei Segmentation in Histopathology Images using Contrastive Regularization and Pixel-Level Multiple Instance Learning — *CIBM*

***Hyun-Jic Oh**, *Seonghui Min, Won-Ki Jeong — *Journal*

- Computers in Biology and Medicine, 2025

Synthetic Data Augmentation using Pre-trained Diffusion Models for Long-tailed Food Image Classification — *CVPRW 2025*

*GaYeon Koh, ***Hyun-Jic Oh**, Jeonghyun Noh, Won-Ki Jeong — *Conference*

- 2nd MetaFood Workshop CVPR, 2025

Co-synthesis of Histopathology Nuclei Image-Label Pairs using a Context-Conditioned Joint Diffusion Model — *ECCV 2024*

*Seonghui Min, ***Hyun-Jic Oh**, Won-Ki Jeong — *Conference*

- European Conference on Computer Vision (ECCV), 2024

Controllable and Efficient Multi-Class Pathology Nuclei Data Augmentation using Text-Conditioned Diffusion Models — *MICCAI 2024*

Hyun-Jic Oh, Won-Ki Jeong — *Conference*

- International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2024

Evaluation and improvement of Segment Anything Model for interactive histopathology image segmentation — *MICCAIW 2023*

SeungKyu Kim, **Hyun-Jic Oh**, Seonghui Min, Won-Ki Jeong — *Conference*

- MICCAI 2023 1st International Workshop on Foundation Models for General Medical AI (MedAGI)

DiffMix: Diffusion Model-based Data Synthesis for Nuclei Segmentation and Classification in Imbalanced Pathology Image Datasets — *MICCAI 2023*

Hyun-Jic Oh, Won-Ki Jeong — *Conference*

- International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2023

MitoVis: A Unified Visual Analytics System for End-to-End Neuronal Mitochondria Analysis — *IEEE TVCG 2023*

JunYoung Choi, **Hyun-Jic Oh**, Hakjun Lee, Suyeon Kim, Seok-Kyu Kwon, Won-Ki Jeong — *Journal*

- IEEE Transactions on Visualization and Computer Graphics (TVCG), 2023

Scribble-Supervised Cell Segmentation Using Multiscale Contrastive Regularization — *IEEE ISBI 2022*

Hyun-Jic Oh, Kanggeun Lee, Won-Ki Jeong — *Conference*

- IEEE International Symposium on Biomedical Imaging (ISBI), 2022

Research Experience

Visual Computing Group
Harvard Univ., Massachusetts, USA

Visiting Scholar
Mar. 2024 - Mar. 2025

- Project: Image Translation for high-plex immunofluorscence image generation using diffusion models

High Performance Visual Computing Lab
Korea Univ., Seoul, S.Korea

Ph.D. course
Aug. 2020 -

- Research focus on segmentation, generative models and foundation models for medical image processing
- Project: histopathology image analysis, food image classification
- TA: Data structure (Spring 2021, Fall 2021, Spring 2022), Digital Image Processing (Fall 2022)
- Server Manager / Lab Leader

Medical Information Processing Laboratory (MIPL)
Korea Univ., Seoul, S.Korea

Undergraduate Researcher
Mar. 2019 - Jun. 2019

- Project: Image Reconstruction Demo Program Development - Virtual simulation tool which can control various variables (The number of photons, noise, and reconstruction methods, etc.)
- TA: Biomedical Signal Processing (Spring 2019)

Program Committees

2023 **Student Contributor,** (AI Challenge) PAIP 2023: TC prediction in pancreatic and colon cancer *IEEE ISBI 2023*

Education

Korea University
Seoul, S.Korea

Ph.D. candidate in Computer Science
Mar. 2021 - Aug. 2026

- GPA (4.31/4.5)
- High Performance Visual Computing (HVCL) Lab - Computer Vision / Medical Vision
- Student Life Advisor by KU Global Service Center (Fall 2023)
- Language Exchange Programs by KU Global Service Center (Spring 2023 - Fall 2023)
- Student Mentor for foreign students by KU Global Service Center (Spring 2023)

Korea University
Seoul, S.Korea

B.S. in Biomedical Engineering
Mar. 2014 - Feb. 2021

- GPA (4.03/4.5)
- Student Council in Department of Biomedical Engineering (2014 - 2015)
- Biomedical Engineering Academic Team of Korea University (Fall 2018, Spring 2019)
- Volunteer programs for foreign students by KU Global Service Center / KUISC (Summer 2018), KUISA (Fall 2018), KUBA (Fall 2019)
- KU Peer Tutoring Program - Biomedical Signals and Systems (Spring 2019)

Chapman University
Orange, California, USA

Exchange Student
Spring 2020

- Computer Science courses and mathematics course (biostatistics)
- Club activity: Korean-American Student Association (KASA)

East China Normal University
Shanghai, China

KU-China Global Leadership Program
Summer 2016

- Intensive Chinese courses
- HSK level 4 (264/300) in Dec. 2021

Services

2026 **Reviewer,** [Conference] CVPR, ECCV, AAAI, MICCAI -

2025 **Reviewer,** [Journal] TMI, MIA, TMM, EAAI [Conference] MICCAI -

2024 **Reviewer,** [Journal] TMI, [Conference] MICCAI, MICCAIW (MedAGI) -

2023 **Reviewer,** [Journal] TMI [Conference] MICCAIW (MedAGI) -