

Seonghui Min

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Research Interests

Deep Learning, Computer Vision, Label-Efficient Learning, Generative AI, Foundation Models, Medical Image Analysis

Education

Korea University Seoul, Korea
M.S. in Computer Science and Engineering *Mar. 2022 - Feb. 2024*
Advisor: Won-Ki Jeong

Korea University Seoul, Korea
B.Eng. in Biomedical Engineering *Mar. 2018 - Feb. 2022*

Research Experience

High-performance Visual Computing Lab Seoul, Korea
Graduate Research Assistant @ Korea University *Sep. 2021 - Mar. 2024*
Advisor: Won-Ki Jeong

- Generative Models for Data Augmentation in Histopathology Images
- Weakly-Supervised Nuclei Segmentation in Histopathology Images
- Interactive Tumor Region Segmentation in Histopathology Images

Brain Reverse Engineering by Intelligent Neuroimaging Lab Seoul, Korea
Undergraduate Research Intern @ Korea University *Mar. 2021 - Aug. 2021*
Advisor: Joon-Kyung Seong

- Regional Amyloid Positivity Prediction using Brain MRI in Alzheimer's Disease

Publications

Conference Proceedings (* equal contribution)

[C3] Co-synthesis of Histopathology Nuclei Image-Label Pairs using a Context-Conditioned Joint Diffusion Model
Seonghui Min*, Hyun-Jic Oh*, Won-Ki Jeong
ECCV 2024

[C2] Evaluation and improvement of Segment Anything Model for interactive histopathology image segmentation
SeungKyu Kim, Hyun-Jic Oh, **Seonghui Min**, Won-Ki Jeong
MICCAI 2023 Workshop on Foundation Models for General Medical AI (MedAGI)

[C1] CGAM: click-guided attention module for interactive pathology image segmentation via backpropagating refinement
Seonghui Min, Won-Ki Jeong
ISBI 2023

Journal Publications (* equal contribution)

[J2] S2L-CM: Scribble-supervised Nuclei Segmentation in Histopathology Images using Contrastive Regularization and Pixel-Level Multiple Instance Learning
Hyun-Jic Oh*, **Seonghui Min***, Won-Ki Jeong
Under Review

[J1] ZoomISEG: Interactive Multi-Scale Fusion for Histopathology Whole Slide Image Segmentation
Seonghui Min, Won-Ki Jeong
Journal of the Korea Computer Graphics Society (2023)

Teaching

(COSE490) Special Lecture for Computer Science

Fall 2022

Teaching Assistant @ Korea University

(COSE213) Data Structure

Spring 2022

Teaching Assistant @ Korea University

Academic Activities

Biomedical Engineering Academic Team

Seoul, Korea

Team Member @ Korea University

Fall 2020 - Spring 2021

Advisor: Joon-Kyung Seong

- Studied deep learning theories and participated in research paper seminars

Honors and Awards

Semester High Honors, Korea University (Spring 2019, Fall 2020, Spring 2021, Fall 2021)

3rd Place, Campus CEO Start-Up Competition, *Team Leader @ Korea University* (2020)

Skills

Programming

- Python, PyTorch, OpenCV, Scikit-learn, Matlab

Languages

- English: TOEFL 107/120
- Korean: Native