

# Seonghui Min

✉ seonghui.min01@gmail.com     seonghui-min.github.io     Seonghui-Min

## Research Interests

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

## Education

**Korea University** | Seoul, South Korea Mar. 2022 - Feb. 2024

*M.S. in Computer Science and Engineering*

Advisor: Won-Ki Jeong

**Korea University** | Seoul, South Korea Mar. 2018 - Feb. 2022

*B.Eng. in Biomedical Engineering*

## Research Experience

**Korea University** | Seoul, South Korea Sep. 2021 - Mar. 2024

*Research Assistant, High-performance Visual Computing Lab*

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

**Korea University** | Seoul, South Korea Mar. 2021 - Aug. 2021

*Research Intern, Brain Reverse Engineering by Intelligent Neuroimaging Lab*

Advisor: Joon Kyung Seong

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

## Publications

**Conference Proceedings** (\* equal contribution)

[C-03] **Seonghui Min\***, Hyun-Jic Oh\*, Won-Ki Jeong “Co-synthesis of Histopathology Nuclei Image-Label Pairs using a Context-Conditioned Joint Diffusion Model”, *European Conference on Computer Vision (ECCV)*, 2024.

[C-02] SeungKyu Kim, Hyun-Jic Oh, **Seonghui Min**, Won-Ki Jeong “Evaluation and improvement of Segment Anything Model for interactive histopathology image segmentation”, **MICCAI Workshop MedAGI**, 2023.

[C-01] **Seonghui Min**, Won-Ki Jeong “CGAM: click-guided attention module for interactive pathology image segmentation via backpropagating refinement”, *IEEE International Symposium on Biomedical Imaging (ISBI)*, 2023.

**Journal Publications** (\* equal contribution)

[J-02] Hyun-Jic Oh\*, **Seonghui Min\***, Won-Ki Jeong “S2L-CM: Scribble-supervised Nuclei Segmentation in Histopathology Images using Contrastive Regularization and Pixel-Level Multiple Instance Learning”, **Under Review**.

[J-01] **Seonghui Min**, Won-Ki Jeong “ZoomISEG: Interactive Multi-Scale Fusion for Histopathology Whole Slide Image Segmentation”, *Journal of the Korea Computer Graphics Society (KCGS)*, 2023.

## Teaching

**Special Lecture for Computer Science (COSE490)** Fall 2022

*Teaching Assistant, Korea University*

**Data Structure (COSE213)** Spring 2022

*Teaching Assistant, Korea University*

## Academic Activities

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**Biomedical Engineering Academic Team** | Korea University  
*Group Member*

*Fall 2020 - Spring 2021*

- Studied Deep Learning Theories and Participated in Research Paper Seminars

## Honors and Awards

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- Semester High Honors, Korea University (Spring 2019, Fall 2020, Spring 2021, Fall 2021)
- Campus CEO Start-Up Competition, Korea University, 3<sup>rd</sup> Place, *Team Leader* (Fall 2020)

## Skills

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### Programming

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

### Languages

- English: TOEFL 107/120
- Korean: Native