

Seongmin Hong

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I'm a Ph.D. candidate in **ICL** @ ECE, SNU, with interests in recent generative models and their inversion, as well as optimization algorithms and computational imaging systems like MRI and automotive radar.

Education

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|---|------------------------------|
| Ph.D. in Electrical and Computer Engineering – Seoul National University | 03 2020 — 08 2026 (expected) |
| Advisor: Se Young Chun, GPA: 4.08/4.3 | |
| B.S. in Electrical and Computer Engineering – Seoul National University | 03 2016 — 02 2020 |
| GPA: 3.70/4.3 | |
| Mathematics and Physics – Gyeonggi Science High School for the Gifted | 03 2013 — 02 2016 |

Publications (selected, sole first author)

[Gradient-free Decoder Inversion in Latent Diffusion Models](#)

Seongmin Hong, Suh Yoon Jeon, Kyeonghyun Lee, Ernest K. Ryu, Se Young Chun
Accepted to Neural Information Processing Systems (**NeurIPS**), 2024.

[Adaptive Selection of Sampling-Reconstruction in Fourier Compressed Sensing](#)

Seongmin Hong, Jaehyeok Bae, Jongho Lee, Se Young Chun
European Conference on Computer Vision (**ECCV**), 2024.

[On Exact Inversion of DPM-Solvers](#)

Seongmin Hong, Kyeonghyun Lee, Suh Yoon Jeon, Hyewon Bae, Se Young Chun
Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024.

[On the Robustness of Normalizing Flows for Inverse Problems in Imaging](#)

Seongmin Hong, Inbum Park, Se Young Chun
International Conference on Computer Vision (**ICCV**), 2023.

[Neural Diffeomorphic Non-uniform B-spline Flows](#)

Seongmin Hong, Se Young Chun
Thirty-Seventh AAAI Conference on Artificial Intelligence (**AAAI**, oral), 2023.

[Advanced direction of arrival estimation using step-learned iterative soft-thresholding for frequency-modulated continuous wave multiple-input multiple-output radar](#)

Seongmin Hong, Seong-Cheol Kim, Seongwook Lee
IET Radar, Sonar & Navigation, 2023.

[Radar Signal Decomposition in Steering Vector Space for Multi-Target Classification](#)

Seongmin Hong, Seongwook Lee, Byeong-Ho Lee, Jinwook Kim, Yong-Hwa Kim, Seong-Cheol Kim
IEEE Sensors Journal, 2021.

Presentations

[On the Robustness of Normalizing Flows for Inverse Problems in Imaging](#)

In 2024 SIAM Conference on Imaging Science (**SIAM IS24**), Atlanta, Georgia, U.S., May 28-31, 2024

Challenges

[AIM 2024 Depth Upsampling Challenge](#) - 3rd place

Woojae Han, Kyeonghyun Lee, **Seongmin Hong**, Se Young Chun

Teaching Experience

| | |
|---|-------------------|
| Head TA, Signals and Systems (English Lecture) | 03 2022 – 06 2022 |
| Head TA, Seminar in Electrical and Computer Engineering 3 | 03 2020 – 06 2020 |
| TA, Advanced Electromagnetics 1 | 03 2020 – 06 2020 |

Fellowship

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|---|-------------------|
| Qualcomm Innovation Fellowship Korea 2024 (won 4,000,000 KRW) | 12 2024 |
| Brain Korea 21 Four Program | 03 2020 – Present |

Services

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| Technical Research Personnel in SNU (Alternative military service) | 03 2023 – 02 2025 |
| Paper reviewers: IEEE Sensors Journal, NeurIPS 2024, ICLR 2025, AISTATS 2025 | since 2023 |

Other Publications

Uncertainty-Adaptive Selection of Sampling-Reconstruction for Fourier Compressed Sensing

Seongmin Hong, Jaehyeok Bae, Jongho Lee, Se Young Chun

3rd Workshop on Uncertainty Quantification for Computer Vision in ECCV (extended abstract), 2024.

Target classification based on point cloud data using automotive imaging radar

Sohee Lim, Jaehoon Jung, **Seongmin Hong**, Byeong-ho Lee, Seong-Cheol Kim

KICS Winter Conference (in Korean), 2021.

Measurement Data Release on 2.4 GHz ISM Band Usage

Doyoung Ham, **Seongmin Hong**, Byonghyo Shim, Seong-Cheol Kim

KICS Winter Conference (in Korean), 2021.

Analysis of CNN Classifier Performance for Segway Data with 77GHz Automotive Radar

Byeong-ho Lee, **Seongmin Hong**, Jinwook Kim, Seongwook Lee, Byonghyo Sim, Seong-Cheol Kim

KICS Winter Conference (in Korean), 2021.

Optimization of 16-QAM Constellations with AWGN Channel

Seongmin Hong, Jeong-Hoon Park, Doyoung Ham, Seong-Cheol Kim

KICS Summer Conference (in Korean), 2020.