

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

Ph.D. in Electrical and Computer Engineering – Seoul National University	03 2020 — 08 2026 (expected)
Advisor: Se Young Chun	
B.S. in Electrical and Computer Engineering – Seoul National University	03 2016 — 02 2020
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

Brain Korea 21 Four Program

03 2020 – Present

Services

[Technical Research Personnel](#) in SNU (Alternative military service)

03 2023 – 02 2025

Paper reviewers: IEEE Sensors Journal, NeurIPS 2024

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.