

Cheeun Hong

Ph.D. Candidate

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<https://cheeunhong.github.io>



<https://github.com/Cheeun>



[link](#)

RESEARCH INTERESTS

I am passionate about advancing **efficient AI** to optimize both model training and inference, with the ultimate goal of promoting sustainable AI. My research focuses on developing cutting-edge techniques like **network quantization**, **pruning**, and **test-time adaptation**, aimed at drastically reducing computational costs while maintaining high performance. While much of my work has targeted efficiency improvements in low-level vision tasks like image restoration, my broader goal is to compress large-scale, computationally intensive models—including vision-language and generative models—to move closer to achieving **on-device AI**.

Keywords: Efficient AI, On-device AI

EDUCATION

Seoul National University – Seoul, Korea

Integrated Ph.D. in Electrical and Computer Engineering, Mar. 2020 – Present

Advisor: Prof. Kyoung Mu Lee

Seoul National University – Seoul, Korea

B.S. in Electrical and Computer Engineering, Mar. 2015 – Feb. 2020

University of Applied Sciences and Arts Northwestern Switzerland – Switzerland

Exchange Student in Computer Science, Fall 2017

PUBLICATIONS

[International Conferences]

Overcoming Distribution Mismatch in Quantizing Image Super-Resolution Networks

Cheeun Hong and Kyoung Mu Lee, In European Conference on Computer Vision (**ECCV**), 2024.

[Acceptance rate: 27.9%]

AdaBM: On-the-Fly Adaptive Bit Mapping for Image Super-Resolution

Cheeun Hong and Kyoung Mu Lee, In Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024.

[Acceptance rate: 23.6%]

Content-Aware Dynamic Quantization for Image Super-Resolution

Cheeun Hong, Sungyong Baik, Heewon Kim, Seungjun Nah, and Kyoung Mu Lee, In European Conference on Computer Vision (**ECCV**), 2022.

[Acceptance rate: 28.0%]

Attentive Fine-Grained Structured Sparsity for Image Restoration

Junghun Oh, Heewon Kim, Seungjun Nah, Cheeun Hong, Jonghyun Choi, and Kyoung Mu Lee, In Conference on Computer Vision and Pattern Recognition (**CVPR**), 2022.

[Acceptance rate: 25.3%]

DAQ: Channel-Wise Distribution-Aware Quantization for Deep Image Super-Resolution Networks

Cheeun Hong^{*}, Heewon Kim^{*}, Sungyong Baik, Junghun Oh, and Kyoung Mu Lee, In Winter Conference on Applications of Computer Vision (**WACV**), 2022.

[Acceptance rate: 35.0%]

Batch Normalization Tells You Which Filter is Important

Junghun Oh, Heewon Kim, Sungyong Baik, Cheeun Hong, and Kyoung Mu Lee, In Winter Conference on Applications of Computer Vision (**WACV**), 2022.

[Acceptance rate: 35.0%]

[Journals]

CoLaNet: Adaptive Context and Latent Information Blending for Face Image Inpainting

JoonKyu Park, Cheeun Hong, Sungyong Baik, and Kyoung Mu Lee, IEEE Signal Processing Letters, 2023.

[Preprints]

Diversity, Plausibility, and Difficulty: Dynamic Data-Free Quantization

Cheeun Hong^{*}, Sungyong Baik^{*}, Junghun Oh, and Kyoung Mu Lee, Submitted for publication, 2024.

ACADEMIC EXPERIENCES

- Served as a reviewer for **CVPR** (2022, 2023, 2024), **ICCV** (2023), **ECCV** (2022, 2024), **TNNLS**
- Transferred technology **Fast Deep Super-Resolution Algorithm**, SNU R&DB, 2021

AWARDS & HONORS

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| • Youlchon AI Star Scholarship (~ \$6000) | 2024 |
| • Best Paper Award at IPIU 2021 (33rd Workshop on Image Processing and Image Understanding) | 2021 |
| • The Grand Prize at Hynix Internship Program | 2018 |

TALKS

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| • AIIS Fall Retreat, SNU (“Content-Aware Dynamic Quantization for Image Super-Resolution”) | 2022 |
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INTERNSHIP

Machine Intelligence and Pattern Analysis Lab (MIPAL) – Seoul National University, Korea

Student Intern, Jun. 2019 – Aug. 2019

Mentor: Prof. Nojun Kwak

DRAM circuit design team – SK Hynix, Korea

Engineering Intern, Jun. 2018 - Aug. 2018

Teaching Experience

Seoul National University

Teaching Assistant in Recent Trends in Computer Vision, Spring 2022

Teaching Assistant in Introduction to Computer Vision, Spring 2022

REFERENCES

Advisor **Kyoung Mu Lee**

Professor

Seoul National University

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