

# Cheemun Hong

Ph.D. Candidate

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<https://cheemuhong.github.io>



<https://github.com/Cheemun>



[link](#)

## RESEARCH INTERESTS

I am interested in **green deep learning** that considers energy usage and carbon emissions during model training and inference. Among the various compression technologies to obtain lightweight models, my previous works are mainly focused on **efficient inference** approaches such as **network quantization and pruning**. Specifically, several projects are about **test-time adaptation** of computational resources based on the sensitivity of the input image to compression (i.e., the less sensitive the input is, the fewer computational resources that are allocated). Although my latest projects are on compressing models for **low-level image restoration** problems, my research goal is to compress any deep learning model with massive computations.

## 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

### Content-Aware Dynamic Quantization for Image Super-Resolution

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

[Citations: 12 | Acceptance rate: 28.0%]

### Attentive Fine-Grained Structured Sparsity for Image Restoration

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

[Citations: 11 | Acceptance rate: 25.3%]

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

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

[Citations: 26 | 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.

[Citations: 7 | Acceptance rate: 35.0%]

### **Overcoming Distribution Mismatch in Quantizing Image Super-Resolution Networks**

Cheeun Hong and Kyoung Mu Lee, Submitted for publication, 2023.

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

Cheeun Hong\*, Sungyong Baik\*, Junghun Oh, and Kyoung Mu Lee, Submitted for publication, 2023.

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

JoonKyu Park, Cheeun Hong, Sungyong Baik, and Kyoung Mu Lee, Submitted for publication, 2023.

## **ACADEMIC EXPERIENCES**

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

## **AWARDS**

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- **Best Paper Award at IPIU 2021** (33rd Workshop on Image Processing and Image Understanding) 2021
- **The Grand Prize at Hynix Internship Program** 2018

## **INTERNSHIP**

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

Student Intern, Jun. 2019 - Aug. 2019

Mentor: Prof. Nojun Kwak

## **Teaching Experience**

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### **Seoul National University**

Teaching Assistant in Recent Trends in Computer Vision, Spring 2022

Teaching Assistant in Introduction to Computer Vision, Spring 2022

## **REFERENCES**

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### **Advisor Kyoung Mu Lee**

Professor

Seoul National University

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