Woo Kyoung Han

Korea University, Seoul, Republic of Korea
Email: wookyoung0727@korea.ac.kr

EDUCATION

Bachelor of Engineering: (MM/YY~MM/YY)
Soongsil University (03/16 ~ 02/22)
- Major in electronic information engineering
- 4.13/4.5 GPA (Top 10% of the program)

Master of Engineering:
Daegu Gyeongbuk Institute of Science & Technology (DGIST) (03/22 ~ 02/24)
- Major in electrical engineering and computer science
- 4.00/4.30 GPA
- Advisor: Kyong Hwan Jin & Sunghoon Im

Doctor of Engineering:
Korea University (03/24 ~ 02/27)
- Major in electrical engineering (Signal Processing and Multimedia)
- 4.25/4.50 GPA
- Advisor: Kyong Hwan Jin

PUBLICATION

W. K. Han, B. Lee, S. H. Park and K. H. Jin "ABCD: Arbitrary Bitwise Coefficient for De-Quantization." *IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**),2023*

M. Kim, Y. Lee, **W. K. Han** and K. H. Jin "Learning Residual Elastic Warps for Image Stitching under Dirichlet Boundary Condition" *IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**),2024*

W. K. Han, S. Im, J. Kim and K. H. Jin "JDEC: JPEG Decoding via Enhanced Continuous Cosine Coefficients." *IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**),2024*

D. G. Choi, J. Lee, J. Koo, **W. K. Han**, D. Park, J. Kung, J.Lee, J.H. Yoon "A 65nm 687.5-TOPS/W Drive Strength-based SRAM Compute-In-Memory Macro with Adaptive Dynamic Range for Edge AI applications" *IEEE Asian Solid-State Circuits Conference (**A-SSCC**),2024*

W. K. Han, B. Lee, H. Cho, S. Im, and K.H. Jin "Towards Lossless Implicit Neural Representation via Bit Plane Decomposition" *IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**),2025*

W. K. Han*, Y. Lee*, B. Lee, S. H. Park, S. Im, and K.H. Jin "JPEG Processing Neural Operator for Backward Compatibility" *IEEE/CVF International Conference on Computer Vision (**ICCV**),2025*

GRANTS

Merit-based Scholarship (Soongsil University) (2016, 2017, 2018, 2020)
Merit-based Scholarship (Korea University) (2024)
Ph.D. Candidate Fellowship (from the National Research Foundation of Korea) (2024~2026)
AI SeoulTech Graduate Scholarship (from the Seoul Scholarship Foundation) (2025)

WORK & RESEARCH EXPERIENCE

Teaching Assistant (2018 ~ 2024)
- Subjects: Electromagnetism, Circuit Theory, Fundamental Signal Processing, Linear Algebra, Advanced Programming, Engineering Mathematics

Research Assistant (2022 ~ Present)
- Platform development for the police health Management (Supported by National Police Agency of Korea)
- Implemented JPEG-domain processing pipelines in PyTorch/C++
- Improved robustness under distortion scenarios (quantization, noise)
- Developed medical image compression and restoration modules for a police health monitoring platform

SKIILS

Programming: Python, C++
Frameworks: Pytorch
Tools: Git, Docker, Linux, Tensorboard
Domains: Computer Vision, Image Compression, JPEG Codec, Implicit Neural Representations

AWARDS

IEEE Seoul Section Best Students Award – Gold (2023)
Workshop On Image Processing and Image Understanding – Encouragement Prize (2024)
IEIE Summer Annual Conference – Best Student Paper (2024)
Workshop On Image Processing and Image Understanding – Bronze Prize (2025)

PATENTS

Korea patent publication

- System for B-Spline Texture Coefficient Estimation and Method for Generating High-Resolution Images Using the Same (2023)
- Apparatus and Method of Recovering Image Using Arbitrary Bitwise Coefficient Estimation for De-quantization (2023)
- Lossless implicit neural representation via object signal quantization and bitwise decomposition (2024)