

Jongpil Jeong

Master course, Kyushu Institute of Technology, Iizuka, Fukuoka, Japan
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RESEARCH INTERESTS

Image processing, Statistical Optics, Dehaze algorithm, Digital holographic microscopy, Night vision

EDUCATION

Kyushu Institute of Technology, Iizuka, Fukuoka, Japan
Master of Engineering in Graduate School of Computer Science and Systems Engineering
Department of Creative Informatics
Apr. 2024 — Mar. 2026
Cumulative GPA: 3.20/4.00

Dong-A University, Busan, Korea
Bachelor of Engineering in College of Engineering
Department of Electronics Engineering
Mar. 2018 — Feb. 2024
Cumulative GPA: 3.91/4.50

ACADEMIC EXPERIENCE

Computational, Holographic and Optical signal processing Lab. at Hankyung National University Anseong, Gyeonggi-do, Korea
Researcher
Jan. 2024 — Feb. 2024

- Integral imaging systems.
- Principle of image encryption such as double random phase encryption (DRPE)

3D Optical Image System Lab at Kyushu Institute of Technology
Researcher
Iizuka, Fukuoka, Japan
Jul. 2023 — Aug. 2023

- Scattering media removal algorithm.
- Restore the low-light images.

3D Optical Image System Lab at Kyushu Institute of Technology
Researcher
Iizuka, Fukuoka, Japan
Jan. 2023 — Feb. 2023

- Principle of digital holographic microscopy.
- Improvement noise reduction algorithm.

SoC Design Lab at Dong-A University
Researcher
Busan, Korea
Sep. 2022 — Jul. 2023

- Basic image processing techniques.
- Principle of machine learning.
- C/C++, MATLAB, Python, and Verilog.

PROJECTS

Image processing research with an Industry partner (NDA-bound)
Researcher
Fukuoka, Osaka, Tokyo, Niigata, Japan
May 2024 — Present

- Conducted joint research with an industry partner under NDA, focusing on advanced image processing.
- Optical equipment design.
- Built a lightweight UI using Qt for visualization.

Image processing technology for visualizing the field of harsh visibility due to the scattering medium Fukuoka, Japan
Researcher
Apr. 2024 — Present

- Participated in a JSPS KAKENHI-funded project (JP24K01120) focused on scattering media removal.
- Proposed new method for scattering media removal and optimization.

PUBLICATIONS

Journal

- **Jongpil Jeong**, and Min-Chul Lee, “Scattering Medium Removal Using Adaptive Masks for Scatter in the Spatial Frequency Domain,” IEEE Access, Accepted. doi: 10.1109/ACCESS.2025.3563369, (2025)

Conference

- Kosei Nakamura, **Jongpil Jeong**, Myungjin Cho, and Min-Chul Lee, “Adaptive Optimization of Kalman Filtering in Digital Holographic Microscopy for Improve Noise Reduction,” in 2025 40th International Technical Conference on Circuits/Systems, Computers and Communications. (Submitted).
- Seongil Kim, **Jongpil Jeong**, Myungjin Cho, and Min-Chul Lee, “Advanced double random phase encryption for simultaneous two primary data,” in 2025 40th International Technical Conference on Circuits/Systems, Computers and Communications. (Submitted).
- Taishi Ono, **Jongpil Jeong**, Hyun-Woo Kim, Myungjin Cho, and Min-Chul Lee, “Kalman filtering optimization in digital holographic microscopy (DHM),” in 2024 24th International Conference on Control, Automation and Systems (ICCAS), Jeju, Korea, pp. 786–791, doi: 10.23919/ICCAS63016.2024.10773243, (2024. 10) (Scopuse).
- **Jongpil Jeong**, Hyun-Woo Kim, Myungjin Cho, and Min-Chul Lee, “A study of noise reduction algorithm using statistical optimization in digital holographic microscopy,” in 2024 21st International Joint Conference on Computer Science and Software Engineering (JCSSE), Phuket, Thailand, pp. 68–73, doi: 10.1109/JCSSE61278.2024.10613728, (2024. 06) (Scopuse).

Patent

- Min-Chul Lee and **Jongpil Jeong**, “画像処理装置、画像処理方法および画像処理プログラム” Japanese Patent 特願 2024-214715, Dec. 9, 2024.
(Not publicly accessible at this time due to confidentiality under Japanese patent law.)

Additional COURSES

IC Design Education Center

- Data structure and algorithm
- Design embedded systems based on FPGA
- FreeRTOS porting and utilization through Cortex-M processor
- MINO - theory and improvement
- Stereovision for autonomous driving system
- Design digital system utilized Verilog
- Neural network hardware accelerator ”Architecture”
- DSP with MATLAB
- Foundation of CUDA-based GPU Programming
- PLL Design and Jitter Interpretation
- Foundation of reinforcement learning

Korea OpenCourseWare

- Digital Image Processing

OTHER EXPERIENCES

Dong-A Ping-Pong Association

President

Busan, Korea

Mar. 2021 — Feb. 2022

SKILLS

- **Programming:** C/C++, Python, MATLAB
- **Software:** PyTorch, Tensorflow, OpenCV, Qt, Pandas
- **Language:** Korean, English, Japanese

REFERENCES

Prof. Min-Chul Lee

Associate professor, Department of Computer Science and Networks, Graduate School of Computer Science and Systems Engineering, Kyushu Institute of Technology, Iizuka, Fukuoka, Japan

E-mail: lee@csn.kyutech.ac.jp

Scholar Profiles: Lee Lab. — Google Scholar

Prof. Myungjin Cho

Professor, School of ICT, Robotics and Mechanical Engineering, IITC, Hankyong National University, Anseong, Kyonggi-do, Korea

E-mail: mjcho@hknu.ac.kr

Scholar Profiles: 3CHO Lab. — Google Scholar

Prof. Bongsoon Kang

Professor, Department of Eletronics Engineering, Collage of Engineering, Dong-A University, Busan, Korea

E-mail: bongsoon@dau.ac.kr

Scholar Profiles: SoC Design Lab. — DBpia