Jongpil Jeong

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

Image processing, Statistical Opics, Dehaze algortihm, Digital holographic microscopy, Night vision

EDUCATION

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

Dong-A University, Busan, Korea   Mar. 2018 — Feb. 2024
Bachelor of Engineering In Eletronics Engineering   Cumulative GPA: 3.91/4.50

ACADEMIC EXPERIENCE

Computational, Holographic and Optical signal processeing Lab. at Hankyung National University Anseong, Gyunggi-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   Iizuka, Fukuoka, Japan
Researcher   Jul. 2023 — Aug. 2023

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

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

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

SoC Design Lab at Dong-A University   Busan, Korea
Researcher   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 parter (NDA-bound)   Fukuoka, Osaka, Tokyo, Niigata, Japan
Researcher   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. (2025)

Conference

- 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" Japanse 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 algortihm
- 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 "Architechture"
- 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 Busan, Korea
President Mar. 2021 — Feb. 2022

SKILLS

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