



Jaewoo Jung

dev@lukael.kr

<https://lukael.kr>

Address

Seoul, Republic of Korea

Update

2023-06-14

Jaewoo Jung

MS/PhD Student

Education

2020 - Present, Yonsei University

Electrical and Electronic Engineering

2015 - 2020, Yonsei University

B.S. in Electrical and Electronic Engineering

2013 - 2015, Changwon Science High School

Chemistry

Experience

Mar 2020 - Present, Graduate Student, Optical Imaging Systems Laboratory in Yonsei University

Detailed achievements:

- Human-Biology Interaction
 - Biotic Games
- Lensless Microscopy
 - Digital In-line Holography
- Lensless Imaging
 - Deep Learning for Image Reconstruction
 - Model based Deep Learning Network

Jul 2019 - Feb 2020, Engineer, Co-Founder, Toky (StartUp)

Detailed achievements:

- Voice recognition kiosk(Prototype)
 - Voice recognition

Jan 2019 - Feb 2020, Internship, Optical Imaging Systems Laboratory in Yonsei University

Detailed achievements:

- Human-Biology Interaction
 - Biotic Games
- Microscopy
 - Digital In-line Holography

Dec 2016 - Dec 2018, Internship, Biological Cybernetics Laboratory in Yonsei University

Detailed achievements:

- Swarm robotics (Capstone Design)
 - Hardware
 - * FreeRTOS
 - * Wi-Fi
 - * Bluetooth
 - * Vibration Control
 - Software
 - * Formation
 - * Charging system



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Mar 2017 - Dec 2017, Research Engineer, Luxrobo

Detailed achievements:

- Network Module Firmware(ESP32)
 - FreeRTOS
 - Wi-Fi
 - BLE
 - USART
- OS Development
 - RTOS research
 - Contiki OS
- Bluetooth 5
 - Nordic nRF52DK
 - Mesh Network
- NLP
 - Chatscript
 - Slack-Chatscript Linkage(Python)

Jan 2017 - Dec 2017, President, SBTM

Robot club in Yonsei University

Software Development Skills

Programming

- C/C++
- Python
- MATLAB

Computer Software

- SketchUp
- Eagle CAD
- Git

Publications

K. C. Lee, J. Bae, N. Baek, **J. Jung**, W. Park, and S. A. Lee, “Design and single-shot fabrication of lensless cameras with arbitrary point spread functions,” *Optica*, vol. 10, no. 1, pp. 72–80, 2023.

C. Yi, **J. Jung**, J. Im, K. C. Lee, E. Chung, and S. A. Lee, “Single-shot temporal speckle correlation imaging using rolling shutter image sensors,” *Optica*, vol. 9, no. 11, pp. 1227–1237, 2022.

N. Baek, Y. Lee, T. Kim, **J. Jung**, and S. A. Lee, “Lensless polarization camera for single-shot full-stokes imaging,” *APL Photonics*, 2022.

Y. Lee, H. Chae, K. C. Lee, N. Baek, T. Kim, **J. Jung**, and S. A. Lee, “Fabrication of integrated lensless cameras via uv-imprint lithography,” *IEEE Photonics Journal*, vol. 14, no. 2, pp. 1–8, 2022.

K. C. Lee, K. Lee, **J. Jung**, S. H. Lee, D. Kim, and S. A. Lee, “A smartphone-based fourier ptychographic microscope using the display screen for illumination,” *ACS Photonics*, vol. 8, no. 5, pp. 1307–1315, 2021



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Conference Presentation(Selected)

2023, Poster, IEEE/IEIE, ICEIC

Jaewoo Jung, Yujin Lee, Seung Ah Lee, *Jointly Optimized Lensless Imaging System with Trainable Phase Mask for Task-specific Imaging*

2022, Poster, Advanced Biophotonics Conference Optical Society of Korea

Jaewoo Jung, Yujin Lee, Seung Ah Lee, *Jointly Optimized Lensless Imaging System with Trainable Phase Mask for Task-specific Imaging*

2022, Oral, IEEE Region 10 Conference

Jaewoo Jung, Tae Young Kim, Donggeon Bae, Ernest K. Ryu, Seung Ah Lee, *Image Reconstruction in Lensless Cameras with Unrolled Optimization Algorithms*

2022, Oral, 30th ACM International Conference on Multimedia

Kyungwon Lee, Yu-Kyung Jang, **Jaewoo Jung**, Dong Hwan Kim, Hyun Jean Lee, Seung Ah Lee, *EuglPollock: Rethinking Interspecies Collaboration through Art Making*

2022, Poster, Gorden Research Conference Image Science

Jaewoo Jung, Donggeon Bae, Kyungchul Lee, Nakkyu Baek, Tae Young Kim, Ernest K. Ryu, Seung Ah Lee, *Deep Learning Approaches for Image Reconstruction in Lensless Cameras*

2021, Oral, IEEE/IEIE ICCE-ASIA

Jaewoo Jung, Tae Young Kim, Donggeon Bae, Ernest K. Ryu, Seung Ah Lee, *Image Reconstruction in Lensless Cameras with Unrolled Optimization Algorithms*

2021, Poster, Optics and Photonics Congress

Jaewoo Jung, Tae Young Kim, Donggeun Bae, Ernest K. Ryu, Seung Ah Lee, *Unrolled ADMM for Image Reconstruction in Lensless Cameras*

2020, Extended Abstracts(Demo), ACM Conference on Human Factors in Computing Systems (CHI)

Kyungwon Lee, **Jaewoo Jung**, Seung Ah Lee, *MicroAquarium: An immersive and interactive installation with living microorganisms*

2020, Oral, IEEE/IEIE ICCE-ASIA

Donggeon Bae, **Jaewoo Jung**, Nakkyu Baek, Seung Ah Lee *Lensless imaging with an end-to-end deep neural network*

2018, ICROS

Minchul Kim, **Jaewoo Jung**, DaeEun Kim, *Swarm Robots Using Vibration Motor Control*

Patents

S. A. Lee, K. C. Lee, N. Baek, W. Park, J.H. Bae, J.H. and **J. Jung**, Apparatus and method for manufacturing phase masks for lens-less camera, US Patent Application, 17/733,114



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Awards

2022, Silver Awards, 28th Samsung Humantech Paper Awards

Kyung Chul Lee, Nakkyu Baek, **Jaewoo Jung**, Junghyun Bae, Seung Ah Lee, Wook Park, *Design and Fabrication of Custom Phase-Masks for Ultra-Thin Lensless Camera*

Competitions

2019, Undergraduate Research Program, KOFAC

High speed lensless camera for microsaccades measurement

2019, International Student Car Competition, KTSA

Autonomous driving Cart

4th Awards

Vision Team

2018, International Student Car Competition, KTSA

Autonomous driving Cart

2nd Awards

LIDAR Team

2017, Smart Model Car Competition, Hanyang University

Autonomous driving Model Car

Team Leader, Hardware Engineer

2016, Smart Model Car Competition, Hanyang University

Autonomous driving Model Car

Hardware Engineer

2016, Korea Robot Aircraft Competition, KAIA

Autonomous driving Quadcopter

Team Leader, Hardware Engineer

2014, Student Science Invention Competition, GNSE

Mono/Stereo Earphone

2014, ISEF-K, KOFAC

Study on Gas phase Adsorption of Toxic substances on ES, ESM and Filter

2014, Science Exhibition, GNSE

Measuring Chemical reaction rate using Smartphone

2014, Steam R&E Festival, KOFAC

Smartphone Application for Chemistry Experiment

2013, Student Science Invention Competition, GNSE

Easy Bookbinding Tape Cutter

2013, Student Creativity Festival, GNE

Between Ventilation and Insulation

2013, Embedded Software Contest, KESSIA

Minesweeper Robot using LEGO Mindstorm

Hardware Engineer

2013, R&E Festival, KOSAF

Develop Filters made from ESM's Toxic substances Absorptive Ability



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Plays

2019, *Core-XY Autonomous Chess board*

2018, *Localization using multiple Gyroscope*

2016, *Humanoid(KHR-1)*

2016, *LED cube($8 \times 8 \times 8$)*

2016, *Robot Soccer*

2015, *Quadcopter*

2015, *Guitar Effector*

Interests

Professional

NAS, DevOps, Robotics

Personal

Bass guitar, Reading, Tea