

**EDUCATION**

- 
- **Yonsei University** Seoul, Korea  
Ph.D Candidate in Electrical and Electronics Engineering 2020 – Present
  - **Yonsei University** Seoul, Korea  
B.S. in Electrical and Electronics Engineering 2015 – 2020
  - **Changwon Science High School** Changwon, Korea  
Chemistry, Early graduation 2013 – 2015

**EXPERIENCE**

- 
- **Seoul National University** Seoul, Korea  
Research Engineer, Imaging Intelligence Laboratory (Prof. Seung Ah Lee) July 2025 – Present
    - **Lensless Imaging:** deep learning for image reconstruction, model based deep learning network
  - **LUXROBO Ltd.** Seoul, Korea  
Research Engineer Aug 2023 – June 2025
    - **MODI Factory:** Electronic Design Automation, Golang Backend, MySQL database, Reinforcement Learning, MLOps
  - **Yonsei University** Seoul, Korea  
Graduate Research Assistant, Optical Imaging Systems Laboratory (Prof. Seung Ah Lee) Mar 2020 – Aug 2023
    - **Lensless Microscopy:** digital in-line holography
    - **Lensless Imaging:** deep learning for image reconstruction, model based deep learning network

Internship, Optical Imaging Systems Laboratory (Prof. Seung Ah Lee) Jan 2019 – Feb 2020
    - **Human-Biology Interaction:** biotic games
    - **Lensless Microscopy:** digital in-line holography
  - **Toky** Seoul, Korea  
Co-Founder, Engineer Jul 2019 – Feb 2020
    - **Voice recognition kiosk:** voice recognition, embedded software
  - **Yonsei University** Seoul, Korea  
Internship, Biological Cybernetics Laboratory (Prof. Dae Eun Kim) Aug 2016 – Dec 2018
    - **Swarm robotics:** Hardware, FreeRTOS, Wi-Fi, Bluetooth, Vibration control, Software, Formation, charging system
  - **LUXROBO Ltd.** Seoul, Korea  
Research Engineer Mar 2017 – Dec 2017
    - **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)

**SKILLS**

- 
- **Programming Skills:** C/C++, Python, MATLAB, Go
  - **Technologies:** SketchUp, EasyEDA, Git
  - **Languages:** Korean (Native), English (Fluent)

## PUBLICATIONS

---

- Y. Lee, S. Byun, C. Yi, **J. Jung** and S. A. Lee, "Rolling shutter speckle plethysmography for quantitative cardiovascular monitoring." *Biomedical Optics Express*, 15(3), 1540-1552, 2024.
- K. Lee, K. C. Lee, **J. Jung**, H. Chae, and S. A. Lee, "High-resolution display screen as programmable illumination for Fourier ptychography." *Optics and Lasers in Engineering*, 177, 108121, 2024.
- 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, 202

## CONFERENCE PRESENTATIONS (SELECTED)

---

- Poster, Advanced Biophotonics Conference, SPIE 2025  
**Jaewoo Jung**, Donggeon Bae, Kyung Chul Lee, Seung Ah Lee, *Multi-view Lensless Imaging using 3D Gaussian Splatting*
- Poster, ICEIC, IEEE/IEIE 2023  
**Jaewoo Jung**, Yujin Lee, Seung Ah Lee, *Jointly Optimized Lensless Imaging System with Trainable Phase Mask for Task-specific Imaging*
- Poster, Advanced Biophotonics Conference, OSK 2022  
**Jaewoo Jung**, Yujin Lee, Seung Ah Lee, *Jointly Optimized Lensless Imaging System with Trainable Phase Mask for Task-specific Imaging*
- Oral, IEEE Region 10 Conference, IEEE/IEIE 2022  
**Jaewoo Jung**, Yujin Lee, Seung Ah Lee, *Jointly Optimized Lensless Imaging System with Trainable Phase Mask for Task-specific Imaging*
- Oral, 30th ACM International Conference on Multimedia, ACMMM 2022  
Kyungwon Lee, Yu-Kyung Jang, **Jaewoo Jung**, Dong Hwan Kim, Hyun Jean Lee, Seung Ah Lee, *EuglPollock: Rethinking Interspecies Collaboration through Art Making*
- Poster, Gorden Research Conference Image Science, GRC 2022  
**Jaewoo Jung**, Donggeon Bae, Kyung Chul Lee, Nakkyu Baek, Tae Young Kim, Ernest K. Ryu, Seung Ah Lee *Deep Learning Approaches for Image Reconstruction in Lensless Cameras*
- Oral, ICCE-ASIA, IEEE/IEIE 2021  
**Jaewoo Jung**, Tae Young Kim, Donggeon Bae, Ernest K. Ryu, Seung Ah Lee, *Image Reconstruction in Lensless Cameras with Unrolled Optimization Algorithms*
- Poster, Optics and Photonics Congress, OSK 2021  
**Jaewoo Jung**, Tae Young Kim, Donggeun Bae, Ernest K. Ryu, Seung Ah Lee, *Unrolled ADMM for Image Reconstruction in Lensless Cameras*
- Extended Abstracts(Demo), ACM Conference on Human Factors in Computing Systems, CHI 2020  
Kyungwon Lee, **Jaewoo Jung**, Seung Ah Lee, *MicroAquarium: An immersive and interactive installation with living microorganisms*
- Oral, ICROS, ICROS 2018  
Minchul Kim, **Jaewoo Jung**, DaeEun Kim, *Swarm Robots Using Vibration Motor Control*

## PATENTS

---

- S. A. Lee, T. Kim, K. Lee, **J. Jung**, N. Baek, Apparatus and method for measuring eye movement, US Patent, 12062190
- S. A. Lee, K. C. Lee, K. Lee, **J. Jung**, S. H. Lee, Smartphone for obtaining Fourier ptychography image and method for obtaining Fourier ptychography image using smartphone, US Patent, 11880965
- S. A. Lee, H. Chae, Y. Lee, K. C. Lee, N. Baek, T. Kim, **J. Jung**, Methods for manufacturing phase masks and lens-less camera module, US Patent, 12108134
- S. A. Lee, K. C. Lee, N. Baek, W. Park, J.H. Bae, **J. Jung**, Apparatus and method for manufacturing phase masks for lens-less camera, US Patent, 12343954

## AWARDS AND HONORS

---

- **Best Poster Awards**, SPIE Advanced Biophotonics Conference 2025  
**Jaewoo Jung**, Donggeon Bae, Kyung Chul Lee, Seung Ah Lee, *Multi-view Lensless Imaging using 3D Gaussian Splatting*
- **Best Poster Awards**, Advanced Biophotonics Conference Optical Society of Korea 2022  
**Jaewoo Jung**, Yujin Lee, Seung Ah Lee, *Jointly Optimized Lensless Imaging System with Trainable Phase Mask for Task-specific Imaging*
- **Silver Awards**, 28th Samsung Humantech Paper Awards 2022  
Kyung Chul Lee, Nakkyu Baek, **Jaewoo Jung**, Junghyun Bae, Seung Ah Lee, Wook Park, *Design and Fabrication of Custom Phase-Masks for UltraThin Lensless Camera*
- **Grants**, Undergraduate Research Program, KOFAC 2019  
**Jaewoo Jung**, Nakkyu Baek, Tae Young Kim, Minhyuk Lee, Seung Ah Lee, *High speed lensless camera for microsaccades measurement*
- **4th Awards**, International Student Car Competition, KTSA 2019  
Vision Team, *Autonomous driving cart*
- **2nd Awards**, International Student Car Competition, KTSA 2018  
LIDAR Team, *Autonomous driving cart*
- **1st Awards**, Embedded Software Contest, KESSIA 2013  
Hardware Engineer, *Minesweeper Robot using LEGO Mindstorm*
- **1st Awards**, R&E Festival, KOSAF 2013  
*Develop Filters made from ESM's Toxic substances Absorptive Ability*

## PROJECTS

---

- Arxiv Monitoring Bot
- Dev Environment
- Various Swarm Behavior Inspired by Nature using Vibration Locomotion Robots
- Core-XY Autonomous Chess Board
- Localization using Multiple Gyroscope
- Autonomous Driving Model Car
- Humanoid(KHR-1)
- LED cube(8×8×8)
- Robot Soccer
- Unmanned Aerial Vehicle (Quadcopter)
- Guitar Effect Pedal

## TEACHING AND SERVICES

---

- **Introduction To Bioengineering For EE**(Spring 2023), teaching assistant with Prof. Seung Ah Lee
- **Introduction To Bioengineering For EE**(Spring 2021), teaching assistant with Prof. Seung Ah Lee
- **Analog Electronics Lab.**(Fall 2020), teaching assistant with Prof. Seung Ah Lee

## EXTRACURRICULAR EXPERIMENTS

### • **SBTM(Robot club in Yonsei University)**

President

○

Seoul, Korea

*Jan 2017 – Dec 2017*