Jaewoo Jung

dev@lukael.kr
https://lukael.kr

Address
Seoul, Republic of Korea

Update
2024-11-18

Jaewoo Jung

AI/ML Engineer

Education

2020 - 2023, Yonsei University
Ph.D Candidate in Electrical and Electronic Engineering

2015 - 2020, Yonsei University
B.S. in Electrical and Electronic Engineering

2013 - 2015, Changwon Science High School
Chemistry

Experience

Aug 2023 - Present, *Research Engineer, Luxrobo*
Detailed achievements:
- MODI Factory
  - Electronic Design Automation
  - Golang
  - MySQL
  - Reinforcement Learning
  - Graph Neural Network

Mar 2020 - Aug 2023, *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

Jaewoo Jung

dev@lukael.kr
https://lukael.kr

Address
Seoul, Republic of Korea

Update
2024-11-18

Aug 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

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
- EasyEDA
- Git

Jaewoo Jung

dev@lukael.kr
https://lukael.kr

Address
Seoul, Republic of Korea

Update
2024-11-18

Publications

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, 2021

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*

Jaewoo Jung

dev@lukael.kr
https://lukael.kr

Address
Seoul, Republic of Korea

Update
2024-11-18

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

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*

Jaewoo Jung

dev@lukael.kr
https://lukael.kr

Address
Seoul, Republic of Korea

Update
2024-11-18

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

Jaewoo Jung

dev@lukael.kr
https://lukael.kr

Address
Seoul, Republic of Korea

Update
2024-11-18

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