



# Donggeon Bae

## Undergraduate Student

School of Electrical and Electronic Engineering  
Yonsei University, Seoul, Republic of Korea

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### Nationality & Languages

Republic of Korea  
Korean & English

► English Proficiency  
OPIc: IH (Intermediate High)

### Education

2018.03 – Present    **B.S. in Electrical and Electronic Engineering**  
Yonsei University

### Research Interests

Computer Vision / Computational Imaging / Biophotonics

### Experiences

(2020.02 – Present) **Undergraduate Researcher, Optical Imaging Systems Laboratory (OISL) in Yonsei University (Advisor: Prof. Seung Ah Lee)**

*Detailed Achievements:*

- Lensless Imaging
  - Deep Learning for Image Reconstruction
  - Deep Learning for Comprehensive Lensless Forward Modeling
- Laser Speckle Imaging

(2022.07 – 2023.01) **Researcher, Yonsei Artificial Intelligence, On/Offline**

(2021.07 – 2021.12) **Researcher, Yonsei Artificial Intelligence, Online**

*Detailed Achievements:*

- Demanding Dataset Generation
- Cell Segmentation
- Deep Learning Methods for Medical Diagnosis

(2020.11 – 2022.05) **Military Service in Korea Following Obligation**

### Publications

1. “Lensless Imaging with an End-to-End Deep Neural Network”  
Donggeon Bae, Jaewoo Jung, Nakkyu Baek and Seung Ah Lee

### Conference (selected)

2023, Poster, Optics and Photonics Congress (Best Poster Presentation Award)

Donggeon Bae, Jaewoo Jung, Nakkyu Baek, Taeyoung Kim, Kyungchul Lee and Seung Ah Lee, “*Learned Spatially Varying Forward Model for*

## *Lensless Imaging*

### 2023, Poster, Optics and Photonics Congress

Qianqian Cheng, Jaewoo Jung, **Donggeon Bae**, Lianfa Bai, Jing Han and Seung Ah Lee, "**Robust Lensless Image Reconstruction via Forward Model Constraint Learning**"

### 2023, Poster, Optics and Photonics Congress

Nakkyu Baek, Kyung Chul Lee, Junghyun Bae, Joonsik Park, Taeyoung Kim, **Donggeon Bae**, Wook Park, and Seung Ah Lee, "**Single-shot fabrication of light modulating phase mask for lensless camera using off-the-shelf components**"

### 2022, Oral, IEEE Region 10 Conference

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

### 2022, Poster, Gordon Research Conference Image Science

Jaewoo Jung, **Donggeon Bae**, Kyungchul Lee, Nakkyu Baek, Ernest K. Ryu and 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 and Seung Ah Lee, "**Image Reconstruction in Lensless Cameras with Unrolled Optimization Algorithms**"

### 2021, Poster, Optics and Photonics Congress

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

### 2020, Oral, IEEE/IEIE ICCE-ASIA

**Donggeon Bae**, Jaewoo Jung, Nakkyu Baek and Seung Ah Lee, "**Lensless Imaging with an End-to-End Deep Neural Network**"

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## Research Techniques

### ► Computer Skills

Python, C/C++, MATLAB, Linux, Raspberry Pi

### ► Machine Learning

Pytorch, Keras, Tensorflow

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## Personal Interests

Poetry, billiard

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