

# Taeyoung Kim

## Ph.D. Student at Yonsei University

Seoul, South Korea — +82 10-6479-6282 — falcon@yonsei.ac.kr

### Education

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| <b>Yonsei University</b><br>Optical Imaging System Lab<br>Graduate Researcher, Optical Imaging System Lab (Prof. Seung Ah Lee) | 2021 - now  |
| <b>Yonsei University</b><br>School of Electronic and Electrical Engineering  | 2015 - 2021 |

### Peer-reviewed Publications

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#### Refereed Journal Article

- **Kim, T.**, Lee, K. C., Baek, N., Chae, H., & Lee, S. A. (2023). Aperture-encoded snapshot hyperspectral imaging with a lensless camera. *APL Photonics*, 8(6).
- Baek, N., Lee, Y., **Kim, T.**, Jung, J., & Lee, S. A. (2022). Lensless polarization camera for single-shot full-Stokes imaging. *APL Photonics*, 7(11).
- Lee, Y., Chae, H., Lee, K. C., Baek, N., **Kim, T.**, Jung, J., & Lee, S. A. (2022). Fabrication of integrated lensless cameras via UV-imprint lithography. *IEEE Photonics Journal*, 14(2), 1-8.

#### Conference Proceedings

- **Kim, T.**, Lee, Y., Jung, J., Lee, K. C., & Lee, S. A. (2024, August). 3D Lensless Camera for extended depth range with multiple point spread functions. In *Conference on Lasers and Electro-Optics/Pacific Rim (p. We3G.3)*. Optica Publishing Group.
- **Kim, T.**, Lee, K. C., Lee, K., Baek, N., Jung, J., Kim, E., ... & Lee, S. A. (2024, February). High-speed lensless eye tracker for microsaccade measurement. In *SPIE Advanced Biophotonics Conference (SPIE ABC 2023) (Vol. 13076, pp. 38-44)*. SPIE.

### Awards and Honors

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- **2024 ABC Best Poster Award**, Optical Society of Korea (2024)
- **2023 SPIE-ABC Young Investigator Award**, Optical Society of Korea (2023)

### Patents (Selected)

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- **Apparatus and method for measuring eye movement**  
- Lee, S. A., **Kim, T. Y.**, Lee, K. W., Baek, N. K., & Jung, J. W. (2024). U.S. Patent Application No. 18/052,192.
- **Methods for manufacturing phase masks and lens-less camera module**  
- Lee, S. A., Chae, H. S., Lee, Y. J., Lee, K. C., Baek, N. K., **Kim, T. Y.**, & Jung, J. W. (2023). U.S. Patent Application No. 18/168,887.

### Conference Activity (Selected)

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- **3D Lensless Camera for Extended Depth Range with Multiple Point Spread Functions (Oral)**  
- CLEO-PR 2024: **Taeyoung Kim**, Yujin Lee, Jaewoo Jung, Kyung Chul Lee, Seung Ah Lee
- **3D Lensless Camera for Extended Depth Range with Multiple Point Spread Functions (Poster)**  
- SPIE-ABC 2023: **Taeyoung Kim**, Yujin Lee, Jaewoo Jung, Kyung Chul Lee, Seung Ah Lee
- **Aperture-encoded Snapshot Hyperspectral Imaging with a Lensless Camera (Oral)**  
- SPIE-ABC 2023: **Taeyoung Kim**, Kyung Chul Lee, Nakkyu Baek, Hyesuk Chae, Seung Ah Lee
- **Design and construction of a compact eye-tracking system based on lensless imaging (Poster)**  
- ICEIC 2023: **Taeyoung Kim**, Kyung Chul Lee, Jaewoo Jung, Nakkyu Baek, Seung Ah Lee
- **Snapshot hyperspectral imaging with a computational lensless camera (Oral)**  
- TENCON 2022: **Taeyoung Kim**, Seung Ah Lee
- **Snapshot hyperspectral imaging with a computational lensless camera (Oral)**  
- Photonics West 2022: **Taeyoung Kim**, Myeong Hun Seong, Seung Ah Lee

- **High-Speed Lensless Eye Tracker for Microsaccade Measurement (Oral)**

- ICCE-Asia 2020: **Taeyoung Kim**, Kyung Chul Lee, Kyungwon Lee, Nakkyu Baek, Jaewoo Jung, Juhyun Kim, Jinwook Kim, Young-Seok Seo, Seung Ah Lee

## **Domestic**

- **Quantitative Fluorescence Imaging for Detection of Dental Plaque with Lensless Camera (Poster)**

- ABC 2024: **Taeyoung Kim**, Hyojun Ahn, Hojin Jang, Junbeom Bae, Jongho Choi, Yoon Hong Cheol, Seung Ah Lee

- **Jointly Optimized Lensless Camera for Enhanced Optical Encoding with Trainable Phase Mask (Poster)**

- ABC 2024: **Taeyoung Kim**, Jongho Kim, Jaewoo Jung, Seung Ah Lee

- **Task-specific Imaging Using a Jointly Optimized Lensless Camera with Learned Phase Mask (Poster)**

- OPC 2023: Jaewoo Jung, **Taeyoung Kim**, Yujin Lee, Seung Ah Lee

- **High-Speed Lensless Eye Tracking System for Microsaccade Measurement (Poster)**

- OPC 2022: **Taeyoung Kim**, Kyung Chul Lee, Kyungwon Lee, Nakkyu Baek, Jaewoo Jung, Seung Ah Lee

- **Snapshot hyperspectral imaging with a computational lensless camera (Poster)**

- OPC 2021: **Taeyoung Kim**, Myeong Hun Seong, Seung Ah Lee

- **High-Speed Lensless Eye Tracker for Microsaccade Measurement (Poster)**

- ABC 2020: **Taeyoung Kim**, Kyung Chul Lee, Kyungwon Lee, Nakkyu Baek, Jaewoo Jung, Juhyun Kim, Jinwook Kim, Young-Seok Seo, Seung Ah Lee

- **High-Speed Lensless Eye Tracker for Microsaccade Measurement (Poster)**

- OSK 2020: **Taeyoung Kim**, Kyung Chul Lee, Kyungwon Lee, Nakkyu Baek, Jaewoo Jung, Seung Ah Lee

- **High-Speed Lensless Camera for Microsaccade Measurement (Poster)**

- ABC 2019: **Taeyoung Kim**, Nak Kyu Baek, Jaewoo Jung, Minhyeok Lee, Seung Ah Lee

## **Teaching and Service**

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- **Electricity and Magnetism**(Fall 2023)), teaching Assistant with Prof. Seung Ah Lee

- **Introduction To Bioengineering For EE**(Spring 2023)), teaching Assistant with Prof. Seung Ah Lee

- **Introductory Digital Labs**(Spring 2022)), teaching Assistant with Prof. Seung Ah Lee

- **Introduction To Bioengineering For EE**(Spring 2021)), teaching Assistant with Prof. Seung Ah Lee

- **Control Engineering**(2019) Peer Tutor at Yonsei Electrical Engineering Honor Society

## **Skills**

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- **Technical:** Python(Pytorch, OpenCV), MATLAB, Fusion 360

- **Languages:** Korean (Native), English (Intermediate, OPIc IM)