RYOTA MAEDA

Himeji, Hyogo, Japan

✉ maeda.ryota.elerac@gmail.com | 🔗 linkedin.com/in/ryota-maeda-elerac | ⚙ github.com/elerac

Research Interests

- Computer Vision
- Polarimetric Imaging
- Computer Graphics
- Light Transport Analysis
- Computational Imaging
- 3D Reconstruction

Education

University of Hyogo   Apr. 2022 – Present
Ph.D. of Engineering

University of Hyogo   Apr. 2020 – Mar. 2022
Master of Engineering

University of Hyogo   Apr. 2016 – Mar. 2020
Bachelor of Engineering

Publications

Hyperspectral Polarimetric BRDFs of Real-world Materials   Dec. 2025
Yunseong Moon, **Ryota Maeda**, Suhyun Shin, Inseung Hwang, Youngchan Kim, Min H. Kim, Seung-Hwan Baek
SIGGRAPH Asia 2025

Event Ellipsometer: Event-based Mueller-Matrix Video Imaging   Jun. 2025
Ryota Maeda, Yunseong Moon, Seung-Hwan Baek
IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR), *highlight*

Dense Dispersed Structured Light for Hyperspectral 3D Imaging of Dynamic Scenes   Jun. 2025
Suhyun Shin, Seungwoo Yoon, **Ryota Maeda**, Seung-Hwan Baek
IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR)

Polarimetric Light Transport Analysis for Specular Inter-reflection   May. 2024
Ryota Maeda, Shinsaku Hiura
IEEE Transactions on Computational Imaging, 2024

Refinement of Hair Geometry by Strand Integration   Oct. 2023
Ryota Maeda, Kenshi Takayama, Takafumi Taketomi
Computer Graphics Forum (Proceedings of Pacific Graphics 2023)

EpiScope: Optical Separation of Reflected Components by Rotation of Polygonal Mirror   Dec. 2021
Ryota Maeda, Shinsaku Hiura
SIGGRAPH Asia 2021 Technical Communications

Research Experience

POSTECH Computational Imaging Group   Mar. 2024 – Feb. 2025
Visiting Research
Mentors: Prof. Seung-Hwan Baek

CyberAgent AI Lab   Aug. 2022 – Sep. 2022
Research Intern
Mentors: Dr. Kenshi Takayama and Dr. Takafumi Taketomi

NAIST Optical Media Interface Lab   Aug. 2018
Research Intern
Mentors: Prof. Hiroyuki Kubo and Prof. Yasuhiro Mukaigawa

Software on GitHub

Polanalyser | ✩ 192 stars
Polarization image analysis tool. Demosaicing, Stokes vector, Mueller matrix.

structuredlight | ✩ 161 stars
Generate and Decode structured light. Binary, Gray, XOR, Ramp, Phase-Shifting, Stripe.

EasyPySpin | ✩ 108 stars
cv2.VideoCapture like wrapper for FLIR Spinnaker SDK.

Skills

Programming: Python, C++
Hardware Development: Electronic circuit design, Embedded systems, 3D CAD
Visual Content Creation: Photography, Image processing, Scientific illustration
Language: Japanese (native), English (advanced)