

RYOTA MAEDA

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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

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 | ☆189 stars

Polarization image analysis tool. Demosaicing, Stokes vector, Mueller matrix.

structuredlight | ☆153 stars

Generate and Decode structured light. Binary, Gray, XOR, Ramp, Phase-Shifting, Stripe.

EasyPySpin | ☆106 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)