

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

Nov. 2024

Ryota Maeda, Yunseong Moon, Seung-Hwan Baek

arXiv (under review)

Dense Dispersed Structured Light for Hyperspectral 3D Imaging of Dynamic Scenes

Nov. 2024

Suhyun Shin, Seungwoo Yoon, **Ryota Maeda**, Seung-Hwan Baek

arXiv (under review)

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 Computer Graphics Lab

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 | ☆163 stars

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

structuredlight | ☆141 stars

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

EasyPySpin | ☆101 stars

cv2.VideoCapture like wrapper for FLIR Spinnaker SDK.

Skills

Programming: Python, C++

Embedded System: Arduino, Mbed, Electronic circuit design

Design and CAD: Photoshop, Lightroom, Illustrator, Fusion 360

Language: Japanese (native), English (advanced)

Last updated: January 4, 2025