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CURRENT APPOINTMENT

Graduate Research Assistant

Massachusetts Institute of Technology

Advisor: Ramesh Raskar

EDUCATION

Massachusetts Institute of Technology

PhD, Media Lab

Cambridge, MA

2024 – Present

Massachusetts Institute of Technology

MS, Media Lab

Cambridge, MA

2022 – 2024

University of California, Los Angeles

BS, Electrical Engineering

Los Angeles, CA

2017 – 2021

HONORS AND AWARDS

NSF Graduate Research Fellowship Program

2024

CVPR Best Paper Finalist

2024

Outstanding B.S. in ECE Finalist

2021

Eta Kappa Nu

2019

UCLA ECE Fast Track Program

2017

VISITING POSITIONS

University of Toronto

Visiting Graduate Student

Toronto, Canada

2024

Host: Kyros Kutulakos and David Lindell

MIT Media Lab, Camera Culture

Research Staff

Cambridge, MA

2021 – 2022

Advisor: Ramesh Raskar

HRL Laboratories

Quantum Optics Research Intern

Malibu, CA

2020

Manager: Thaddeus Ladd

The Aerospace Corporation

Photonics Technology Engineer Intern

El Segundo, CA

2019

Manager: William Lotshaw

INVITED TALKS

IIT Madras

2023

Host: Kaushik Mitra

CMU Reading Group

2022

Host: Matthew O'Toole

REFeree SERVICE

IEEE Transactions on Computational Imaging

PUBLICATIONS

Please refer to my [Google Scholar](https://scholar.google.com/citations?user=sidsoma) for a complete list.

[P.9] T-H. Lin, C. Henley, **S. Somasundaram**, A. Dave, M. Laifenfeld, R. Raskar, "Handheld Mapping of Specular Surfaces using Consumer-Grade Flash LiDAR", **ICCP 2024**.

- [P.8] T. Klinghoffer, X. Xiang*, **S. Somasundaram***, Y. Fan, C. Richardt, R. Raskar, R. Ranjan, "PlatoNeRF: 3D Reconstruction in Plato's Cave via Single-View Two-Bounce Lidar", **CVPR 2024 (Award Candidate < 0.3% Acceptance)**.
- [P.7] **S. Somasundaram**, A. Dave, C. Henley, A. Veeraraghavan, R. Raskar, "Role of Transients in Two-Bounce Non-Line-of-Sight Imaging," **CVPR 2023**.
- [P.6] C. Henley, **S. Somasundaram**, J. Hollmann, R. Raskar, "Detection and Mapping of Specular Surfaces Using Multibounce Lidar Returns," **Optics Express 2023**.
- [P.5] **S. Somasundaram***, T. Klinghoffer*, K. Tiwary*, R. Raskar, "Physics vs. Learned Priors: Rethinking Camera and Algorithm Design for Task-Specific Imaging," **ICCP 2022**.
- [P.4] D. Ren, K. Azizur-Rahman, Z. Rong, B. Juang, **S. Somasundaram**, M. Shahili, A. Farrell, B. Williams, D. Huffaker, "Room-Temperature Mid-Wavelength Infrared InAsSb Nanowire Photodetector Arrays with Al₂O₃ Passivation," **Nano Letters 2019**.
- [P.3] D. Ren, Z. Rong, K. Azizur-Rahman, **S. Somasundaram**, M. Shahili, D. Huffaker, "Feasibility of Achieving High Detectivity at Short- And Mid-Wavelength Infrared Using Nanowire Photodetectors with P-N Heterojunctions," **Nanotechnology 2019**.
- [P.2] D. Ren, Z. Rong, **S. Somasundaram**, K. Azizur-Rahman, B. Liang, D. Huffaker, "A Three-Dimensional Insight into Correlation Between Carrier Lifetime And Surface Recombination Velocity for Nanowires," **Nanotechnology 2018**.
- [P.1] D. Ren, X. Meng, Z. Rong, C. Minh, A. C. Farrell, **S. Somasundaram**, K.M. Azizur-Rahman, B.S. Williams, D.L. Huffaker, "Uncooled Photodetector at Short-Wavelength Infrared Using InAs Nanowire Photoabsorbers on InP with P-N Heterojunctions," **Nano Letters 2018**.

NON-REFEREED PUBLICATIONS

- [P.3] N. Behari, A. Young, **S. Somasundaram**, T. Klinghoffer, A. Dave, R. Raskar, "Blurred LiDAR for Sharper 3D: Robust Handheld 3D Scanning with Diffuse LiDAR and RGB", 2024
- [P.2] M. Muglikar, **S. Somasundaram**, A. Dave, E. Charbon, D. Scaramuzza, R. Raskar, "Event Cameras Meet SPADs for High-Speed, Low-Bandwidth Imaging", arXiv preprint arXiv:2404.11511, 2024.
- [P.1] K. Tiwary, T. Klinghoffer, A. Young, **S. Somasundaram**, N. Behari, A. Dave, B. Cheung, D. Nilsson, T. Poggio, R. Raskar, "A Roadmap for Generative Design of Visual Intelligence", **MIT Press**

THESIS

Mobile Multi-Bounce LiDAR

2024

M.S. Thesis, *Massachusetts Institute of Technology*

MEDIA COVERAGE

MIT News

2023

PlatoNeRF: 3D Reconstruction in Plato's Cave via Single-View Two-Bounce Lidar [[web](#)]