Siddharth Somasundaram

E14-374A, 75 Amherst St, Cambridge, MA, USA 02139

sidsoma.github.io | sidsoma@mit.edu | linkedin.com/in/sidsoma/ | sidsoma

Current Appointment

Graduate Research Assistant
Massachusetts Institute of Technology
Advisor: Ramesh Raskar

Education

Massachusetts Institute of Technology — **Cambridge, MA**
PhD, Media Lab — *2024 – Present*

Massachusetts Institute of Technology — **Cambridge, MA**
MS, Media Lab — *2022 – 2024*

University of California, Los Angeles — **Los Angeles, CA**
BS, Electrical Engineering — *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
Dan and Helen Low Scholarship in Engineering	2019
UCLA ECE Fast Track Program	2017

Visiting Positions

University of Toronto — **Toronto, Canada**
Visiting Graduate Student — *2024*
Host: Kyros Kutulakos and David Lindell

MIT Media Lab, Camera Culture — **Cambridge, MA**
Research Staff — *2021 – 2022*
Advisor: Ramesh Raskar

HRL Laboratories — **Malibu, CA**
Quantum Optics Research Intern — *2020*
Manager: Thaddeus Ladd

The Aerospace Corporation — **El Segundo, CA**
Photonics Technology Engineer Intern — 2019
Manager: William Lotshaw

Publications

Please refer to my Google Scholar for a complete list.

[P.12] T. Klinghoffer, **S. Somasundaram***, X. Xiang*, Y. Fan, C. Richardt, A. Dave, R. Raskar, R. Ranjan, "Shoot-Bounce-3D: Single-Shot Occlusion-Aware 3D from Lidar by Decomposing Two-Bounce Light", **SIGGRAPH Asia 2025**.

[P.11] M. Muglikar, **S. Somasundaram**, A. Dave, E. Charbon, R. Raskar, D. Scaramuzza, "Event Cameras Meet SPADs for High-Speed, Low-Bandwidth Imaging", **IEEE TPAMI 2025**.

[P.10] 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", **CVPR 2025 (Highlight)**.

[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 (Best Paper Finalist)**.

[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 (ICCP Spotlight Poster)**.

[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] T. Klinghoffer*, **S. Somasundaram***, 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 Al_2O_3 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.2] **S. Somasundaram**, A. Young, A. Dave, A. Pediredla, R. Raskar, "Imaging Hidden Objects with Consumer LiDAR using Motion-Induced Aperture Sampling", *Under Review at Nature* 2025

[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**

Invited Talks

AI + X Global Talent Community Exchange 2025
Seeing the Invisible with Everyday Cameras
MIT Museum

New England Computer Vision Workshop 2023
3D Reconstruction of Occluded and Specular Objects using Multi-Bounce LiDAR
Dartmouth College

IIT Madras 2023
Shadows in Space-Time for Non-Line-of-Sight Imaging
Host: Kaushik Mitra

CMU Reading Group 2022
Role of Transients in Two-Bounce Non-Line-of-Sight Imaging
Host: Matthew O'Toole

Public Demonstrations

[P.2] **S. Somasundaram**, A. Young, N. Tsao, A. Dave, A. Pediredla, R. Raskar, "Real-Time Non-Line-of-Sight Tracking with Low-Cost Sensors", *ICCP Demos 2025*

[P.1] A. Young, **S. Somasundaram**, N. Tsao, A. Dave, A. Pediredla, R. Raskar, "Real-Time Non-Line-of-Sight Tracking with Low-Cost Sensors", *CVPR Demos 2025*

Referee Service

IEEE Transactions on Computational Imaging

Theses

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]