Siddharth Somasundaram

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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
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

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 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 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.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]