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	2024
CVPR Best Paper Finalist	2024
Outstanding Bachelors in ECE Finalist	2021
Eta Kappa Nu	2019
Dan and Helen Low Scholarship in Engineering	2019
UCLA ECE Fast Track Program	2017
UCLA Regent's Scholarship Finalist	2017

Internships

Serve Robotics — **Mountain View, CA**
Autonomy Team Intern — 2026
Manager: Abhishek Bhatia

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

Journal Publications

* Equal contribution

Please refer to my Google Scholar for a complete list.

Imaging Hidden Objects with Consumer LiDAR via Motion Induced Sampling — 2026
S. Somasundaram, A. Young, A. Dave, A. Pediredla, R. Raskar
Nature (to appear)

Event Cameras Meet SPADs for High-Speed, Low-Bandwidth Imaging — 2025
M. Muglikar, S. Somasundaram, A. Dave, E. Charbon, R. Raskar, D. Scaramuzza
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

A Roadmap for Generative Design of Visual Intelligence — 2025

K. Tiwary, T. Klinghoffer, A. Young, S. Somasundaram, N. Behari, A. Dave, B. Cheung, D. Nilsson, T. Poggio, R. Raskar
MIT Press: Impacts of Generative AI

Detection and Mapping of Specular Surfaces Using Multibounce Lidar Returns 2023
C. Henley, S. Somasundaram, J. Hollmann, R. Raskar
Optics Express

Room-Temperature Mid-Wavelength Infrared InAsSb Nanowire Photodetector Arrays with Al_2O_3 Passivation 2019
D. Ren, Z. Rong, K. Azizur-Rahman, S. Somasundaram, M. Shahili, D. Huffaker
Nano Letters

Feasibility of Achieving High Detectivity at Short- And Mid-Wavelength Infrared using Nanowire Photodetectors with P-N Heterojunctions 2019
D. Ren, Z. Rong, K. Azizur-Rahman, S. Somasundaram, M. Shahili, D. Huffaker
Nanotechnology

A Three-Dimensional Insight into Correlation Between Carrier Lifetime And Surface Recombination Velocity for Nanowires 2018
D. Ren, Z. Rong, S. Somasundaram, K. Azizur-Rahman, B. Liang, D. Huffaker
Nanotechnology

Uncooled Photodetector at Short-Wavelength Infrared Using InAs Nanowire Photoabsorbers on InP with P-N Heterojunctions 2018
D. Ren, X. Meng, Z. Rong, C. Minh, A. C. Farrell, S. Somasundaram, K.M. Azizur-Rahman, B.S. Williams, D.L. Huffaker
Nano Letters

Conference Publications

* Equal contribution

Please refer to my Google Scholar for a complete list.

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

Blurred LiDAR for Sharper 3D: Robust Handheld 3D Scanning with Diffuse LiDAR and RGB 2025
N. Behari, A. Young, S. Somasundaram, T. Klinghoffer, A. Dave, R. Raskar
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)
Highlight (Top 2.98%, 13,008 submissions)

Handheld Mapping of Specular Surfaces using Consumer-Grade Flash LiDAR 2024
T-H. Lin, C. Henley, S. Somasundaram, A. Dave, M. Laifenfeld, R. Raskar
IEEE International Conference on Computational Photography (ICCP)

PlatoNeRF: 3D Reconstruction in Plato's Cave via Single-View Two-Bounce Lidar 2024
T. Klinghoffer, X. Xiang*, **S. Somasundaram***, Y. Fan, C. Richardt, R. Raskar, R. Ranjan
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)
Oral, **Best Paper Finalist (Top 0.79%, 11532 submissions)**

Role of Transients in Two-Bounce Non-Line-of-Sight Imaging 2023
S. Somasundaram, A. Dave, C. Henley, A. Veeraraghavan, R. Raskar
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)
ICCP Spotlight Poster (12 of 79 submissions)

Physics vs. Learned Priors: Rethinking Camera and Algorithm Design for Task-Specific Imaging 2022
T. Klinghoffer*, S. Somasundaram*, K. Tiwary*, R. Raskar
IEEE International Conference on Computational Photography (ICCP)

Preprints

* Equal contribution

Please refer to my Google Scholar for a complete list.

Spatiotemporal Flux Probing for Single-Photon Videography 2026

J. Yan, M. Forlivesi, B. Tan, A. Xie, S. Somasundaram, S. Nousias
Under Review

Invited Talks

Purdue Computational Imaging Group 2026
Repurposing Consumer LiDAR for Extreme Vision
Host: Sotiris Nousias

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

ECCV 2026–
SIGGRAPH 2026–
ACM Transactions on Graphics 2026–
IEEE Transactions on Computational Imaging 2024–

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]