

---

## Education

- 2017–2023 **Ph.D.**, *Rice University*, Houston, TX,  
Electrical and Computer Engineering  
Thesis: Seeing the Invisible: Next-generation cameras leveraging  
polarization and time-of-flight of light  
Advisor: Ashok Veeraraghavan GPA: 4.1/4
- 2012–2017 **B.Tech. & M.Tech.**, *Indian Institute of Technology Madras*, Chennai, India,  
Electrical Engineering  
Thesis: Deep learning for inverse computational imaging problems  
Advisor: Kaushik Mitra GPA: 8.89/10

---

## Research Positions

- 2023 - now **Postdoctoral Associate**, *MIT Media Lab*, Cambridge MA  
Faculty Host: Ramesh Raskar
- 2022 **Visiting Researcher**, *MIT Media Lab*, Cambridge MA  
Faculty Host: Ramesh Raskar
- 2020 **Research Intern**, *Adobe Research*, San Jose CA  
Manager: Kalyan Sunkavalli

---

## Publications

- CVPR 2023 **ORCa: Glossy Objects as Radiance Field Cameras**,  
K. Tiwary\*, A. Dave\*, N. Behari, T. Klinghoffer, A. Veeraraghavan, R. Raskar,  
Conference on Computer Vision and Pattern Recognition 2023 (\* = Equal contribution)
- CVPR 2023 **Role of Transients in Two-Bounce Non-Line-of-Sight Imaging**,  
S. Somasundaram, A. Dave, C. Henley, A. Veeraraghavan, R. Raskar,  
Conference on Computer Vision and Pattern Recognition 2023
- ECCV 2022 **PANDORA: Polarization-Aided Neural Decomposition Of Radiance**,  
A. Dave, Y. Zhao, A. Veeraraghavan,  
European Conference on Computer Vision 2022
- OE 2022 **Snapshot polarimetric diffuse-specular separation**,  
A. Dave, Y. Hold-Geoffroy, M. Hašan, K. Sunkavalli, A. Veeraraghavan,  
Optics Express 2022
- ICCP 2022 **First Arrival Differential LiDAR**,  
Tianyi Zhang, Mel White\*, A. Dave\*, S. Ghajari, A. Raghuram, A. Molnar, A. Veeraraghavan,  
International Conference on Computational Photography 2022
- ISCAS 2022 **A Differential SPAD Array Architecture in 0.18 m CMOS for HDR Imaging**,  
M. White, S. Ghajari, Tianyi Zhang, A. Dave, A. Veeraraghavan, A. Molnar,  
International Symposium on Circuits and Systems 2022
- LCI 2021 **A Deep Network-based Image Processing Framework for Thermal Images**,  
V. Saragadam, A. Dave, A. Veeraraghavan, R. Baraniuk,  
Learning for Computational Imaging Workshop at ICCV 2021
- COSI 2020 **Foveated Non Line of Sight Imaging**,  
A. Dave, M. Balaji, P. Rangarajan, A. Veeraraghavan, M. Christensen,  
OSA Imaging and Applied Optics Congress 2020
- ICCV 2019 **Convolutional Approximations to the General NLOS Imaging Operator**,  
B. Ahn, A. Dave, A. Veeraraghavan, I. Gkioulekas, A. C. Sankaranarayanan,  
International Conference of Computer Vision 2019
- ICCP 2019 **SNLOS: Non-line-of-sight Scanning through Temporal Focusing**,  
A. Pediredla\*, A. Dave\*, A. Veeraraghavan,  
International Conference on Computational Photography 2019

- TCI 2018 **Solving Inverse Computational Imaging Problems Using Deep Pixel-Level Prior**,  
A. Dave, A. K. Vadathya, R. Subramanyam, R. Baburajan, K. Mitra,  
IEEE Transactions on Computational Imaging 2018
- GSRL 2018 **SILC: Smoother Imitation with Lipschitz Costs**,  
S. Chaudhary\*, A. Dave\*, B. Ravindran,  
Workshop on Goal Specification in Reinforcement Learning at ICML 2018
- ICIP 2017 **Compressive Image Recovery Using Recurrent Generative Model**,  
A. Dave, A. K. Vadathya, K. Mitra,  
International Conference on Image Processing 2017
- USMC 2015 **IITMSAT Communications System - A LeanSat Design Approach**,  
A. Gulati, S. Chavan, A. Dave, et al.,  
IAA Conference on University Satellites Missions and CubeSat Workshop 2015

---

## Patent

- 2022 **Generating physically-based material maps**,  
A. Dave, K. Sunkavalli, Y. Hold-Geoffroy, M. Hasan, US Patent App. 17/233,861, 2022

---

## Selected Honours

- 2023 **SIGGRAPH Asia Doctoral Consortium** for PhD thesis research.
- 2023 **Lodieska Stockbridge Vaughn Fellowship** for outstanding graduate research.
- 2022 **Rice D2K Research Mentoring Fellowship** for data science solutions to real-world problems.
- 2020 **Best Student Paper Prize** at the 2020 OSA Imaging and Applied Optics Congress.
- 2017 **Texas Instruments Fellowship** for Ph.D. study at Rice University.
- 2016 **Qualcomm Innovation Fellowship** for Masters thesis research.
- 2015 **Svaagata Erasmus Mundus Scholarship** for semester exchange at KTH University, Sweden.
- 2012 **All India Rank 212** amongst 1.1 million participants in undergraduate entrance exam AIEEE.
- 2011 **KVPY National Fellowship** for research in basic sciences by the Government of India.

---

## Diversity and Outreach

- 2023 **Houston Fire Department Collision Prevention**. Mentoring a student team to develop data science solutions for preventing collision of fire trucks en route to emergency calls.
- 2021 **COVID-19 management in underserved hospitals in Indore, India**. Developed data analysis and visualization tools to assess the quality of treatment of COVID-positive women.
- 2015 **Techno-ambiance initiative, IITM technical festival**. Led the design and implementation of interactive art installations based on computer vision to engage and educate the general public.

---

## Teaching and Academic Service

- Instructor** *SIGGRAPH 2023*: Course on Polarization-based Visual Computing
- Research** *Ph.D.*: T. Zhang (ICCP 2022), S. Somasundaram (CVPR 2023), K. Tiwary (CVPR 2023)
- Mentor** *Undergraduate*: A. Shaikh (Ongoing), N. Behari (CVPR 2023), R. Subramanyam (TCI 2018)
- Teaching** *Rice*: Computer Vision (2020), Computational Imaging (2019)
- Assistant** *IITM*: Machine Learning for Computer Vision (2016), Data Structures and Algorithms (2016)
- Reviewer** *Journals*: IEEE TPAMI, IEEE TCI, ACM TOG  
*Conferences*: ECCV 2020, ICCP 2022, CVPR 2023, SIGGRAPH Asia 2023

---

## Recent Invited Talks

- UWash **ECE Group Talk**, *University of Washington Seattle*, (Aug 2023),  
Host: Arka Majumdar
- UCLA **Grundfest Lecture Series**, *University of California Los Angeles*, (Apr 2023),  
Host: Achuta Kadambi
- UCSD **PixelCafe Seminars**, *University of California San Diego*, (Feb 2023),  
Host: Manmohan Chandraker

Stanford **Computational Imaging Group Talk**, *Stanford University*, (Jan 2023),  
Host: Gordon Wetzstein

MIT **Computer Graphics Group Talk**, *Massachusetts Institute of Technology*, (Sep 2022),  
Host: Fredo Durand

CMU **Graphics Talk**, *Carnegie Mellon University*, (Aug 2022),  
Host: Ioannis Gkioulekas