# Varun Sundar


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## Education

**University of Wisconsin Madison** — Jan 2021–Present
PhD, Computer Science, GPA: 4.0/4.0.
Advised by Mohit Gupta.

**Indian Institute of Technology Madras** — 2016–2020
B.Tech in Electrical Engineering, CGPA: 9.67/10.0.

## Experience

**Graduate Research Assistant** — 2021–Present
WISIONLab, UW-Madison. — PI: Mohit Gupta.
Algorithms and applications for high-speed single photon devices.

**Undergraduate Research Assistant** — 2019–2020
Computational Imaging Lab, IIT Madras. — PI: Kaushik Mitra.
End-to-end data-driven algorithms for lensless image reconstruction.

**Machine Learning Intern** — May–Aug 2018
Satellite Imaging Team, Hyperverge India. — Mentor: Nikhil Naphade
Robust asset detection from large-scale satellite data.

## Publications

*SoDaCam: Software-defined Cameras via Single-Photon Imaging* — ICCV 2023
**V Sundar**, A Ardelean, T Swedish, C Bruschini, E Chabron and M Gupta.

*Seeing Photons in Color* — SIGGRAPH 2023
S Ma, **V Sundar**, P Mos, C Bruschini, E Chabron and M Gupta.

*Single-Photon Structured Light*[†] — CVPR 2022.
**V Sundar**, S Ma, A Sankaranarayanan and M Gupta. — [†]*patent filed*

*[Reprod.]Rigging the Lottery: Making All Tickets Winners* — Rescience C 2020
**V Sundar** and R Dwaraknath.

*Towards Photorealistic Scene Reconstruction of Lensless Measurements.* — TPAMI 2020.
SS Khan[*], **V Sundar**[*], V Boominathan, A Veeraraghavan and K Mitra.

*Deep Atrous Guided Filter for UDC Image Restoration.* — ECCV-W, 2020
**V Sundar**[*], S Hegde[*], D Kothandaraman and K Mitra.

## Awards and Honors

**UW-Madison Summer Research Award, 2021.**

**Under Display Challenge, ECCV 2020:** $2^{nd}$, $5^{th}$ (P-OLED, T-OLED tracks).

**Graduate Scholarship at UW Madison:** fall 2021 and spring 2022.

**IUSSTF-Viterbi REU at USC:** one of 15 awardees among 1000+ applicants. Mentored by Ram Nevatia, summer 2019.

## Additional Information

**Talks:** UW-Madison Research Symposium (April 2023), Cruise AI (Oct 2022), Sony Research (June 2022, Aug 2022), CVPR (June 2022), CVPR CCD (June 2020).
**Posters:** ICCP 2023 (software-defined cameras, colorful SPAD imaging), ICCP 2022 (single-photon SL), CVPR CCD Workshop 2022 (single-photon SL).
**Reviewing:** ICCV 2023, CVPR 2023, ML Reproducibility 2022.
**Organizing:** ICCP 2023 (social media chair).

**Technical Skills:** Python, C, C++, MATLAB (prog. languages); Numpy, Numba, Scipy, Taichi (scientific packages); Pytorch, Tensorflow and JAX (ML frameworks).
Teaching Assistant for Computer Vision (fall 2021, spring 2022) and Data Science (spring 2021) at UW-Madison.