

Shobhita Sundaram

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ssundaram21.github.io

EDUCATION

Massachusetts Institute of Technology (MIT)

Ph.D. Computer Science

Cambridge, MA

2022–2027

S.M. Computer Science

2022–2025

Advisor: Phillip Isola

Massachusetts Institute of Technology (MIT)

S.B. Computer Science, S.B. Mathematics

Cambridge, MA

2018–2022

Advisors: Pawan Sinha, Xavier Boix, Tomaso Poggio

PUBLICATIONS

* indicates equal contribution

1. Better Together: Leveraging Unpaired Multimodal Data for Stronger Unimodal Models.
S. Gupta, **S. Sundaram**, C. Wang, S. Jegelka, P. Isola. *Preprint*.
2. What Makes for a Good Stereoscopic Image?
N. Tamir, S. Amir, R. Itzhaky, N. Atia, **S. Sundaram**, S. Fu, R. Sokolovsky, P. Isola, T. Dekel, R. Zhang, M. Farber. *CVPR Computer Vision for Metaverse Workshop*, 2025.
3. Personalized Representation from Personalized Generation.
S. Sundaram*, J. Chae*, Y. Tian, S. Beery, P. Isola. *ICLR*, 2025.
4. When Does Perceptual Alignment Benefit Vision Representations?
S. Sundaram*, S. Fu*, L. Muttenhaler, N. Tamir, L. Chai, S. Kornblith, T. Darrell, P. Isola. *NeurIPS*, 2024.
5. DreamSim: Learning New Dimensions of Human Visual Similarity using Synthetic Data.
S. Fu*, N. Tamir*, **S. Sundaram***, L. Chai, R. Zhang, T. Dekel, P. Isola. *NeurIPS*, 2023 (spotlight).
6. Recurrent Connections Facilitate Symmetry Perception in Deep Networks.
S. Sundaram*, D. Sinha*, M. Groth, T. Sasaki, X. Boix. *Scientific Reports*, 2022.
7. GAN-Based Data Augmentation for Chest X-ray Classification.
S. Sundaram* and N. Hulkund*. *KDD Workshop on Applied Data Science for Healthcare*, 2021.
8. Do Neural Networks for Segmentation Understand Insideness?
K. Villalobos*, V. Štih*, A. Ahmadinejad*, **S. Sundaram**, J. Dozier, A. Franci, F. Azevdo, T. Sasaki, X. Boix. *Neural Computation*, 2021.

EXPERIENCE

FAIR

Research Scientist Intern

Paris, France

May - October 2025

- Project: LLM self-improvement for difficult reasoning problems with meta-RL.
- Mentors: Julia Kempe, Yann Olivier, Kartik Ahuja

Google Research

Student Researcher

Cambridge, MA

December 2023 - March 2024

- Project: Synthetic data generation with diffusion models for personalizing vision backbones.

- *Mentors:* Yonglong Tian, Dilip Krishnan

Google DeepMind

Research Engineering Intern

London, UK

June - August 2022

- *Project:* Data selection for LLM pretraining.

- *Mentors:* Sebastian Borgeaud, Laurent Sifre, Jordan Hoffman, Arthur Mensch

Center for Brains, Minds, and Machines, MIT

Undergraduate Researcher

Cambridge, MA

September 2019 - May 2022

- *Project:* Recurrent vision models for visual long-range spatial dependencies.

- *Mentors:* Xavier Boix, Pawan Sinha, Tomaso Poggio

The D. E. Shaw Group

Quantitative Research Intern

New York, NY

June - August 2021

- *Project:* RL tools for portfolio management; outperformed optimal control theory baselines.

- *Mentor:* Konstantin Turitsyn

Apple

Machine Learning Intern

Cupertino, CA

June - August 2020

- *Project:* Built and deployed an end-to-end ML pipeline on-device for power optimization.

Two Sigma Investments

Software Engineering Intern

Houston, TX

May - August 2019

- *Project:* A RESTful Flask service and UI to track collections of trading instruments.

AWARDS

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| NSF Graduate Research Fellowship | 2022 - 2025 |
| HDTV Grand Alliance Fellowship | 2022 - 2023 |
| MIT Undergraduate Research and Innovation Scholar | 2020 |
| MIT Burchard Scholar | 2020 |

SERVICE & LEADERSHIP

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|---|-------------|
| Organizer: CVPR Workshop on Synthetic Data for Computer Vision | 2024, 2025 |
| Organizer: ECCV Tutorial on Efficient Text-to-Image Modeling | 2024 |
| Mentor: MIT Graduate Application Assistant Program | 2022 - 2024 |
| Event Coordinator: MIT Graduate Women of EECS | 2023 |
| Associate Editor: MIT Science Policy Review | 2020 - 2022 |

INVITED TALKS

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| Personalized Representation from Personalized Generation. | |
| CVPR Syntegen Workshop | June 2025 |
| Cohere for AI | March 2025 |
| Representation Learning with Perceptual Alignment. | |
| Stanford NeuroAILab | April 2025 |
| Evaluating Text-to-Image Models. | |
| ECCV Efficient Text-to-Image Modeling Tutorial | September 2024 |
| DreamSim: Learning New Dimensions of Human Visual Similarity using Synthetic Data. | |
| Adobe | October 2023 |
| Computer Vision Meetup, hosted by Voxel51 | July 2023 |