

David B. Lindell

Room BA7228, 40 St. George St. – Toronto, ON M5S 2E4, Canada
☎ +1 507 514 2491 • ✉ lindell@cs.toronto.edu • 🌐 davidlindell.com

Current Appointments

Assistant Professor

Dept. of Computer Science, University of Toronto

2022–present

Faculty Affiliate

Vector Institute

2022–present

Faculty Fellow

AXL

2025–present

Education

Stanford University

Ph.D. Electrical Engineering

Committee: Gordon Wetzstein, Bernd Girod, Mark Horowitz, Vivek Goyal, James Harris

Stanford, CA

2016–2021

Brigham Young University

M.Sc. Electrical Engineering

Advisor: David G. Long

Provo, UT

2015–2016

Brigham Young University

B.Sc. Electrical Engineering

Advisors: David G. Long, Aaron Hawkins

Provo, UT

2009–2015

Previous Professional Experience

Stanford University

Postdoctoral Scholar

Advisor: Gordon Wetzstein

Stanford, CA

2021–2022

Intelligent Systems Lab, Intel Corporation

Intern

Advisor: Vladlen Koltun

Santa Clara, CA

2018

Rincon Research Corporation

Intern

Tucson, AZ

2016

Awards

CVPR Best Student Paper Award

2025

Ontario Early Researcher Award

2025

Google Research Scholar Award

2024

Sony Focused Research Award

2023

Sony Faculty Innovation Award

2023

Marr Prize

2023

Connaught New Researcher Award

2023

ACM SIGGRAPH Outstanding Doctoral Dissertation Honorable Mention

2021

ACM SIGGRAPH Thesis Fast Forward Honorable Mention

2020

CVPR Outstanding Reviewer

2020

Stanford Graduate Research Fellowship

2016–2020

BYU Office of Research & Creative Activities Grant

2015

Tau Beta Pi Scholarship

2014

Conference Organization/Editorial Positions

| | |
|--|----------------|
| Area Chair: Neural Information Processing Systems (NeurIPS) | 2023–2025 |
| Area Chair: IEEE Conference on Computer Vision and Pattern Recognition (CVPR) | 2023–2025 |
| Associate Editor: ACM Transactions on Graphics | 2025– |
| Associate Editor: IEEE Transactions on Computational Imaging | 2023– |
| Computational Imaging Technical Committee: IEEE Signal Processing Society | 2025– |
| Finance Co-Chair: Int. Conference on Computational Photography (ICCP) | 2022 |
| Organizer: 2nd Workshop on Neural Fields Beyond Conventional Cameras (CVPR) | 2025 |
| Program Co-Chair: Int. Conference on Computational Photography (ICCP) | 2025 |
| Program Co-Chair: IEEE Workshop on Computational Cameras and Displays (CCD) | 2020,2021,2023 |
| Program Committee: Int. Conference on Computational Photography (ICCP) | 2019–2024 |
| Technical Papers Committee: SIGGRAPH Asia | 2023 |
| Technical Papers Committee: SIGGRAPH | 2025 |

Referee Service

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|--|-------|
| CVPR | 2020– |
| ECCV | 2020– |
| ICCV | 2021– |
| ICCP | 2019– |
| ICLR | 2021– |
| NeurIPS | 2021– |
| SIGGRAPH | 2020– |
| SIGGRAPH Asia | 2022– |
| WACV | 2024– |
| Nature | |
| Nature Communications | |
| Nature Photonics | |
| Optica | |
| Optics Express | |
| Science Advances | |
| IEEE Transactions on Computational Imaging | |
| IEEE Transactions on Pattern Analysis and Machine Intelligence | |

University Service

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| AI Curriculum Committee: Computer Science Department, University of Toronto | 2023–2024 |
| Outreach Committee: Computer Science Department, University of Toronto | 2023–2025 |
| Undergraduate Affairs Committee: Computer Science Department, University of Toronto | 2022–2024 |
| Faculty Search Committee: Computer Science Department, University of Toronto | 2024–2025 |

Teaching

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| University of Toronto | Instructor |
| <i>CSC2539: Physics-Informed Neural Representations for Visual Computing</i> | 2025 |

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| University of Toronto CSC2529: Computational Imaging | Instructor 2022–2024 |
| University of Toronto CSC420: Introduction to Image Understanding | Instructor 2023–2025 |
| AAAI Conference on Artificial Intelligence AI for Emerging Inverse Problems in Computational Imaging | Instructor 2024 |
| Stanford University EE367/CS448i: Computational Imaging | Instructor 2022 |
| Stanford University EE367/CS448i: Computational Imaging | Teaching Assistant 2020 |
| ACM SIGGRAPH Computational Time-Resolved Imaging, Single-Photon Sensing and Non-Line-of-Sight Imaging | Instructor 2020 |

Journal Publications

- [J14] D. Verma, I. Ruffolo, **D. B. Lindell**, K. N. Kutulakos, A. Mariakakis, “Chromaflash: Snapshot hyperspectral imaging using rolling shutter cameras,” *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (Ubicomp)*, vol. 8, no. 3, pp. 1–31, 2024.
- [J13] C. Shentu, E. Li, C. Chen, P. T. Dewi, **D. B. Lindell**, J. Burgner-Kahrs, “MoSS: Monocular shape sensing for continuum robots,” *IEEE Robotics and Automation Letters*, 2023.
- [J12] J. N. P. Martel, **D. B. Lindell**, C. Z. Lin, E. R. Chan, M. Monteiro, G. Wetzstein, “ACORN: Adaptive coordinate networks for neural scene representation,” *ACM Transactions on Graphics (SIGGRAPH)*, vol. 40, no. 4, pp. 1–13, 2021.
- [J11] **D. B. Lindell** and G. Wetzstein, “Three-dimensional imaging through scattering media based on confocal diffuse tomography,” *Nature Communications*, vol. 11, no. 4517, 2020.
- [J10] C. A. Metzler, **D. B. Lindell**, G. Wetzstein, “Keyhole imaging: Non-line-of-sight imaging and tracking of moving objects along a single optical path at long standoff distances,” *IEEE Transactions on Computational Imaging*, vol. 7, pp. 1–12, 2020.
- [J9] Z. Sun, **D. B. Lindell**, O. Solgaard, G. Wetzstein, “SPADnet: Deep RGB-SPAD sensor fusion assisted by monocular depth estimation,” *Optics Express*, vol. 28, no. 10, pp. 14 948–14 962, 2020.
- [J8] F. Heide, M. O’Toole, K. Zang, **D. B. Lindell**, S. Diamond, G. Wetzstein, “Non-line-of-sight imaging with partial occluders and surface normals,” *ACM Transactions on Graphics (ToG)*, vol. 38, no. 3, 2019.
- [J7] **D. B. Lindell**, G. Wetzstein, M. O’Toole, “Wave-based non-line-of-sight imaging using fast f-k migration,” *ACM Transactions on Graphics (SIGGRAPH)*, vol. 38, no. 4, 2019.
- [J6] F. Heide, S. Diamond, **D. B. Lindell**, G. Wetzstein, “Sub-picosecond photon-efficient 3D imaging using single-photon sensors,” *Scientific Reports*, vol. 8, no. 17726, 2018.
- [J5] **D. B. Lindell**, M. O’Toole, G. Wetzstein, “Single-photon 3D imaging with deep sensor fusion,” *ACM Transactions on Graphics (SIGGRAPH)*, vol. 37, no. 4, 2018.
- [J4] M. O’Toole, **D. B. Lindell**, G. Wetzstein, “Confocal non-line-of-sight imaging based on the light-cone transform,” *Nature*, vol. 555, no. 7696, pp. 338–341, 2018.
- [J3] **D. B. Lindell** and D. G. Long, “High-resolution soil moisture retrieval with ASCAT,” *IEEE Geoscience and Remote Sensing Letters*, vol. 13, no. 7, pp. 972–976, 2016.
- [J2] **D. B. Lindell** and D. G. Long, “Multiyear Arctic ice classification using ASCAT and SSMIS,” *Remote Sensing*, vol. 8, no. 4, p. 294, 2016.
- [J1] **D. B. Lindell** and D. G. Long, “Multiyear Arctic sea ice classification using OSCAT and QuikSCAT,” *IEEE Transactions on Geoscience and Remote Sensing*, vol. 54, no. 1, pp. 167–175, 2016.

Conference Publications

- [C37] M. Anagh, B. Attal, A. Xie, M. O’Toole, **D. B. Lindell**, “Neural inverse rendering from propagating light,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025, (**Best Student Paper**).

- [C36] S. Bahmani, I. Skorokhodov, G. Qian, A. Siarohin, W. Menapace, A. Tagliasacchi, **D. B. Lindell**, S. Tulyakov, “AC3D: Analyzing and improving 3D camera control in video diffusion transformers,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025.
- [C35] S. Bahmani, I. Skorokhodov, A. Siarohin, W. Menapace, G. Qian, M. Vasilkovsky, H.-Y. Lee, C. Wang, J. Zou, A. Tagliasacchi, **D. B. Lindell**, S. Tulyakov, “VD3D: Taming large video diffusion transformers for 3D camera control,” in *International Conference on Learning Representations (ICLR)*, 2025.
- [C34] K. Namekata, S. Bahmani, Z. Wu, Y. Kant, I. Gilitschenski, **D. B. Lindell**, “SG-I2V: Self-guided trajectory control in image-to-video generation,” in *International Conference on Learning Representations (ICLR)*, 2025.
- [C33] S. Nousias, M. Wei, H. Xiao, M. Wu, S. Athar, K. J. Wang, A. Malik, D. A. Barmherzig, **D. B. Lindell**, K. Kutulakos, “Opportunistic single-photon time of flight,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025, **(Oral Presentation)**.
- [C32] F. Taubner, R. Zhang, M. Tuli, **D. B. Lindell**, “CAP4D: Creating animatable 4D portrait avatars with morphable multi-view diffusion models,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2025, **(Oral Presentation)**.
- [C31] V. Zehtab, **D. B. Lindell**, M. A. Brubaker, M. S. Brown, “Efficient neural network encoding for 3d color lookup tables,” in *AAAI Conference on Artificial Intelligence*, 2025.
- [C30] S. Bahmani, X. Liu, Y. Wang, I. Skorokhodov, V. Rong, Z. Liu, X. Liu, J. J. Park, S. Tulyakov, G. Wetzstein, A. Tagliasacchi, **D. B. Lindell**, “TC4D: Trajectory-conditioned text-to-4D generation,” in *European Conference on Computer Vision (ECCV)*, 2024.
- [C29] S. Bahmani, I. Skorokhodov, V. Rong, G. Wetzstein, L. Guibas, P. Wonka, S. Tulyakov, J. J. Park, A. Tagliasacchi, **D. B. Lindell**, “4D-fy: Text-to-4D generation using hybrid score distillation sampling,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
- [C28] W. Luo, A. Malik, **D. B. Lindell**, “Transientangelo: Few-viewpoint surface reconstruction using single-photon lidar,” in *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2024.
- [C27] A. Malik, N. Juravsky, R. Po, G. Wetzstein, K. N. Kutulakos, **D. B. Lindell**, “Flying with photons: Rendering novel views of propagating light,” in *European Conference on Computer Vision (ECCV)*, 2024, **(Oral Presentation)**.
- [C26] P. Mirdehghan, B. Buscaino, M. Wu, D. Charlton, M. E. Mousa-Pasandi, K. N. Kutulakos, **D. B. Lindell**, “Coherent optical modems for full-wavefield lidar,” in *ACM SIGGRAPH Asia*, 2024.
- [C25] P. Mirdehghan, M. Wu, W. Chen, **D. B. Lindell**, K. N. Kutulakos, “TurboSL: Dense, accurate and fast 3D by neural inverse structured light,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
- [C24] R. Rangel, X. Sun, A. Barman, R. Gulve, S. Bajic, J. Wang, H. Wang, **D. B. Lindell**, K. N. Kutulakos, R. Genov, “23,000-exposures/s 360fps-readout software-defined image sensor with motion-adaptive spatially varying imaging speed,” in *IEEE Symposium on VLSI Technology and Circuits*, 2024.
- [C23] V. Rong, J. Chen, S. Bahmani, K. N. Kutulakos, **D. B. Lindell**, “GStex: Per-primitive texturing of 2D Gaussian splatting for decoupled appearance and geometry modeling,” in *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2024.
- [C22] S. Shekarforoush, **D. B. Lindell**, M. A. Brubaker, D. J. Fleet, “CryoSPIN: Improving ab-initio cryo-EM reconstruction with semi-amortized pose inference,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2024.
- [C21] K. Yin, V. Rao, R. Jiang, X. Liu, P. Aarabi, **D. B. Lindell**, “SCE-MAE: Selective correspondence enhancement with masked autoencoder for self-supervised landmark estimation,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.
- [C20] R. Gulve, R. Rangel, A. Barman, D. Nguyen, M. Wei, M. A. Sakr, X. Sun, **D. B. Lindell**, K. N. Kutulakos, R. Genov, “Dual-port CMOS image sensor with regression-based HDR flux-to-digital conversion and 80 ns rapid-update pixel-wise exposure coding,” in *IEEE International Solid-State Circuits Conference (ISSCC)*, 2023.
- [C19] A. Malik, P. Mirdehghan, S. Nousias, K. N. Kutulakos, **D. B. Lindell**, “Transient neural radiance fields for lidar view synthesis and 3d reconstruction,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2023, **(Spotlight)**.

- [C18] S. Sinha, J. Y. Zhang, A. Tagliasacchi, I. Gilitschenski, **D. B. Lindell**, “SparsePose: Sparse-view camera pose regression and refinement,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
- [C17] M. Wei, S. Nousias, R. Gulve, **D. B. Lindell**, K. N. Kutulakos, “Passive ultra-wideband single-photon imaging,” in *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2023, (**Marr Prize**).
- [C16] A. W. Bergman, P. Kellnhofer, Y. Wang, E. R. Chan, **D. B. Lindell**, G. Wetzstein, “Generative neural articulated radiance fields,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [C15] C. Z. Lin, **D. B. Lindell**, E. R. Chan, G. Wetzstein, “3D GAN inversion for controllable portrait image animation,” in *ECCV 2022 Workshop on Learning to Generate 3D Shapes and Scenes*, 2022.
- [C14] **D. B. Lindell**, D. Van Veen, J. J. Park, G. Wetzstein, “BACON: Band-limited coordinate networks for neural scene representation,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022, (**Oral Presentation**).
- [C13] S. Shekarfroush, **D. B. Lindell**, D. J. Fleet, M. A. Brubaker, “Residual multiplicative filter networks for multiscale reconstruction,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- [C12] D. Van Veen, R. Van der Sluijs, B. Ozturkler, A. D. Desai, C. Bluethgen, R. D. Boutin, M. H. Willis, G. Wetzstein, **D. B. Lindell**, S. Vasanawala, J. Pauly, A. S. Chaudhari, “Scale-agnostic super-resolution in MRI using feature-based coordinate networks,” in *Medical Imaging with Deep Learning*, 2022.
- [C11] Q. Zhao, **D. B. Lindell**, G. Wetzstein, “Learning to solve PDE-constrained inverse problems with graph networks,” in *International Conference on Machine Learning (ICML)*, 2022.
- [C10] **D. B. Lindell**, J. N. P. Martel, G. Wetzstein, “AutoInt: Automatic integration for fast neural volume rendering,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021.
- [C9] A. W. Bergman, **D. B. Lindell**, G. Wetzstein, “Deep adaptive LiDAR: End-to-end optimization of sampling and depth completion at low sampling rates,” in *IEEE International Conference on Computational Photography (ICCP)*, 2020.
- [C8] **D. B. Lindell**, M. O’Toole, G. Wetzstein, “Efficient non-line-of-sight imaging with computational single-photon imaging,” in *Advanced Photon Counting Techniques XIV*, SPIE, 2020.
- [C7] **D. B. Lindell** and G. Wetzstein, “Confocal diffuse tomography for single-photon 3D imaging through highly scattering media,” in *Computational Optical Sensing and Imaging (COSI)*, OSA, 2020.
- [C6] M. Nishimura, **D. B. Lindell**, C. A. Metzler, G. Wetzstein, “Disambiguating monocular depth estimation with a single transient,” in *European Conference on Computer Vision (ECCV)*, 2020.
- [C5] V. Sitzmann, J. N. P. Martel, A. W. Bergman, **D. B. Lindell**, G. Wetzstein, “Implicit neural representations with periodic activation functions,” in *Advances in Neural Information Processing Systems (NeurIPS)*, 2020, (**Oral Presentation**).
- [C4] S. I. Young, **D. B. Lindell**, B. Girod, D. Taubman, G. Wetzstein, “Non-line-of-sight surface reconstruction using the directional light-cone transform,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020, (**Oral Presentation**).
- [C3] **D. B. Lindell**, G. Wetzstein, V. Koltun, “Acoustic non-line-of-sight imaging,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019, (**Oral Presentation**).
- [C2] **D. B. Lindell**, M. O’Toole, G. Wetzstein, “Towards transient imaging at interactive rates with single-photon detectors,” in *IEEE International Conference on Computational Photography (ICCP)*, 2018.
- [C1] M. O’Toole, F. Heide, **D. B. Lindell**, K. Zang, S. Diamond, G. Wetzstein, “Reconstructing transient images from single-photon sensors,” in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017, (**Spotlight**).

Non-Refereed Publications

- [P1] E. Y. Lin, Z. Wang, R. Lin, D. Miaou, F. Kainz, J. Chen, X. C. Zhang, **D. B. Lindell**, K. N. Kutulakos, “Learning lens blur fields,” *arXiv preprint arXiv:2310.11535*, 2023.

Public Demonstrations

- [D3] R. Gulve, R. Rangel, A. Barman, D. Nguyen, M. Wei, M. A. Sakr, X. Sun, **D. B. Lindell**, K. N. Kutulakos, R. Genov, “Low-cost coded-exposure pixel cameras for robust high-speed computational imaging at up to 18,000 exposures per second,” in *CVPR Demos*, 2023.
- [D2] M. O’Toole, **D. B. Lindell**, G. Wetzstein, “Real-time non-line-of-sight imaging,” in *ACM SIGGRAPH Emerging Technologies*, 2018.
- [D1] M. O’Toole, **D. B. Lindell**, G. Wetzstein, “Real-time non-line-of-sight imaging,” in *CVPR Demos*, 2018.

Theses

2021: Computational Imaging with Single-Photon Detectors. Ph.D. Thesis.

2016: Arctic Sea Ice Classification and Soil Moisture Estimation Using Microwave Sensors. Master’s Thesis.

Keynotes

2025: Inverse Rendering from Propagating Light, IEEE Conference on Computational Imaging Using Synthetic Apertures, College Park, Maryland

2024: Flying with Photons: Rendering Novel Views of Propagating Light, 1st Workshop on Neural Fields Beyond Conventional Cameras (ECCV 2024), Milan, Italy

Invited Talks

2025: Inverse Rendering from Propagating Light, SIGGRAPH TPC Workshop, Vancouver, BC

2025: From Pixels to Perception: Artificial Intelligence and Computer Vision, CS Academy, Toronto, ON

2025: Capturing Dynamic Scenes from Seconds to Picoseconds, MERL, Virtual

2024: Capturing Dynamic Scenes from Seconds to Picoseconds, Computer Vision Seminar, Seoul National University, Seoul, South Korea

2024: Capturing Dynamic Scenes from Seconds to Picoseconds, Graphics Seminar, POSTECH University, Pohang, South Korea

2024: Neural Scene Reconstruction from Videos of Propagating Light, Korea AI Summit, Seoul, South Korea

2024: Capturing Dynamic Scenes from Seconds to Picoseconds, Computational Imaging Seminar, Sony Corporation, Tokyo, Japan

2024: Capturing Dynamic Scenes from Seconds to Picoseconds, Computer Vision Seminar, University of Tokyo, Tokyo, Japan

2024: Imaging Anytime Anywhere All at Once: Capturing Dynamic Scenes from Seconds to Picoseconds, UC Berkeley Photobears, Berkeley, CA

2024: Imaging Anytime Anywhere All at Once: Capturing Dynamic Scenes from Seconds to Picoseconds, Stanford Center for Image Systems Engineering (SCIEN), Stanford, CA

2024: Flying with Photons: Rendering Novel Views of Propagating Light, Conference on Robots and Vision, Guelph, ON

2024: Text-to-4D Generation Using Hybrid Score Distillation Sampling, UTMIST Immersion Night, Toronto, ON

2024: Passive Ultra-Wideband Single-Photon Imaging, Stanford EE367 Computational Imaging (Guest Lecture), Virtual

2024: From Pixels to Perception: Artificial Intelligence and Computer Vision, DGP Academy, Toronto, ON

2024: Passive Ultra-Wideband Single-Photon Imaging, Simon Fraser University (GrUVi Lab), Vancouver, BC

2024: Passive Ultra-Wideband Single-Photon Imaging, National Research Council Ultrafast Quantum Photonics Group, Ottawa, ON

2023: Passive Ultra-Wideband Single-Photon Imaging, 3rd International Computational Imaging Confer-

ence, Virtual

2023: From Pixels to Perception: Artificial Intelligence and Computer Vision, Leadership by Design Workshop, Toronto, ON

2023: Neural Rendering at One Trillion Frames per Second, UTMIST EigenAI ML Conference, Toronto, ON

2023: Passive Ultra-Wideband Single-Photon Imaging, Photons Canada, Virtual

2023: Neural Rendering at One Trillion Frames per Second, BIRS Workshop on Generative 3D Models, Banff, AB

2023: Passive Ultra-Wideband Single-Photon Imaging, Photonics North, Montreal, QC

2023: Physics-Based Visual Computing for Efficient 3D Vision and Sensing, University of Windsor, Windsor, ON

2022: Recent Advances in Non-Line-of-Sight Imaging, IEEE Signal Processing Society Webinar, Virtual

2022: Physics-Based Visual Computing for Efficient 3D Vision and Sensing, Purdue Computational Imaging Seminar, Virtual

2022: Confocal Non-Line-of-Sight Imaging and Diffuse Tomography Using Single-Photon Sensors, Imaging and Applied Optics Congress, Vancouver, BC

2022: Physics-Based Visual Computing for Efficient 3D Vision and Sensing, Caltech, Pasadena, CA

2022: Implicit Neural Representation Networks for Fitting Signals, Derivatives, and Integrals, Silicon Valley ACM SIGGRAPH Chapter, Virtual

2021: Implicit Neural Representation Networks for Fitting Signals, Derivatives, and Integrals, Samsung AI Centre, Virtual

2021: Implicit Neural Representation Networks for Fitting Signals, Derivatives, and Integrals, University of Erlangen-Nuremberg, Virtual

2021: Physics-Based Visual Computing for Efficient 3D Vision and Sensing, University of Michigan, Virtual

2021: Physics-Based Visual Computing for Efficient 3D Vision and Sensing, MIT RLE, Virtual

2021: Physics-Based Visual Computing for Efficient 3D Vision and Sensing, University of Chicago, Virtual

2021: Physics-Based Visual Computing for Efficient 3D Vision and Sensing, University of Toronto, Virtual

2021: Physics-Based Visual Computing for Efficient 3D Vision and Sensing, Texas A&M, Virtual

2021: AutoInt: Automatic Integration for Fast Neural Volume Rendering, Google, Virtual

2020: Implicit Neural Representation Networks for Fitting Signals, Derivatives, and Integrals, Graphics and Mixed Environment Seminar (GAMES), Virtual

2020: A Camera to See Around Corners, Playground/Akasha Imaging, Palo Alto, CA

2019: A Camera to See Around Corners, TEDxBeaconStreet, Boston, MA

2019: Computational Imaging with Single-Photon Detectors, Boston University Center for Information & Systems Engineering (CISE), Boston, MA

2019: Efficient Confocal Non-Line-of-Sight Imaging, MIT RLE, Cambridge, MA

2019: Efficient Confocal Non-Line-of-Sight Imaging, MIT Media Lab, Cambridge, MA

2019: Computational Imaging with Single-Photon Detectors, Berkeley Center for Computational Imaging, Berkeley, CA

2019: Computational Single-Photon Imaging, Silicon Valley ACM SIGGRAPH Chapter, San Jose, CA

2019: Computational Imaging with Single-Photon Detectors, Stanford Center for Image Systems Engineering (SCIEN), Stanford, CA

2019: Computational Single-Photon Imaging, Carnegie Mellon University Graphics Lab, Pittsburgh, PA

PhD Advising

Felix Taubner
University of Toronto

Sep 2024–

Sherwin Bahmani
University of Toronto

Sep 2023–

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| Victor Rong <i>University of Toronto</i> Co-advised with Kyros Kutulakos | Sep 2023– |
| Anagh Malik <i>University of Toronto</i> | Sep 2022– |
| Samarth Sinha <i>University of Toronto</i> Co-advised with Igor Gilitschenski | Sep 2022– |
| Esther Lin <i>University of Toronto</i> Co-advised with Kyros Kutulakos | Sep 2022– |

Master's Advising

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| Andrew Guo <i>MSc, University of Toronto</i> | Sep 2024– |
| Andrew Xie <i>MSc, University of Toronto</i> | Sep 2024– |
| Kelly Zhu <i>MSc, University of Toronto</i> | Sep 2024– |
| Maxx Wu <i>MSc, University of Toronto</i> Co-advised with Kyros Kutulakos | Sep 2023– |
| Umar Masud <i>MScAC, University of Toronto</i> Samsung | May 2024–Dec 2024 |
| Steven Hyun <i>MScAC, University of Toronto</i> Samsung | May 2024–Dec 2024 |
| Faraz Ali <i>MScAC, University of Toronto</i> Samsung | May 2024–Dec 2024 |
| Carolina Villamizar <i>MScAC, University of Toronto</i> DWave | May 2024–Dec 2024 |
| Kartik Kumar <i>MScAC, University of Toronto</i> DNEG | May 2023–Dec 2023 |
| Yihan (Nick) Ni <i>MScAC, University of Toronto</i> DNEG | May 2023–Dec 2023 |
| Kejia Yin <i>MScAC, University of Toronto</i> MODIFACE | May 2023–Dec 2023 |
| Vahid Zehtab <i>MScAC, University of Toronto</i> Samsung | May 2023–Dec 2023 |
| EJay Guo <i>MScAC, University of Toronto</i> DNEG | May 2022–Dec 2022 |

Visiting Students

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| Siddharth Somasundaram <i>MIT</i> Co-advised with Kyros Kutulakos, Ramesh Raskar | Sep 2024–Dec 2024 |
| Michael Neumayr <i>TUM</i> Co-advised with Matthias Nießner | Sep 2024–Apr 2025 |

Undergraduate Advising

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|---|-------------------|
| Allison Lau <i>University of Toronto</i> | Sep 2024– |
| Koichi Namekata <i>University of Toronto</i> | July 2024– |
| Howard Xiao <i>University of Toronto</i> NSERC Undergraduate Student Research Award | May 2024– |
| Mehar Khurana <i>IIT Madras</i> Mitacs Globalink | May 2024– |
| Weihan Luo <i>University of Toronto</i> | Sep 2023– |
| Zixin Guo <i>University of Toronto</i> University of Toronto Excellence Award | Jan 2023– |
| Zach Salehe <i>University of Toronto</i> NSERC Undergraduate Student Research Award | Jan 2023–May 2024 |
| Jason Zhu <i>University of Toronto</i> | Sep 2023–May 2024 |
| Steven Luo <i>University of Toronto</i> | Jan 2024–May 2024 |
| Ariel Chen <i>University of Toronto</i> | Sep 2023–May 2024 |
| Haojun Qiu <i>University of Toronto</i> | Sep 2022–May 2024 |
| Andrew Qiu <i>University of Toronto</i> | Sep 2023–Dec 2023 |
| Kevin Vaidyan <i>University of Toronto</i> | May 2023–May 2024 |
| Noah Juravsky <i>University of Toronto</i> | May 2023–May 2024 |
| Dorsa Molaverdikhani <i>University of Toronto</i> | Jan 2023–May 2024 |
| Shahmeer Athar <i>University of Toronto</i> | Jan 2023–May 2024 |
| Rishit Dagli <i>University of Toronto</i> | Jan 2023–Dec 2023 |
| Roland Gao <i>University of Toronto</i> | Jan 2023–Sep 2023 |

NSERC Undergraduate Student Research Award

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| Qing (Amy) Lyu <i>University of Toronto</i> | Jan 2023–May 2023 |
| Louis Zhang <i>University of Toronto</i> | Jan 2023–May 2023 |
| Junru Lin <i>University of Toronto</i> | Sep 2022–May 2023 |
| Justin Tran <i>University of Toronto</i> Thesis: Generative 3D shape modeling using latent space diffusion | Sep 2022–May 2023 |
| Skyler Zhang <i>University of Toronto</i> Thesis: Towards coded high-speed video acquisition using diffusion models | Sep 2022–May 2023 |

Funding

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| NSERC Alliance <i>Generative Video Models for Controllable Digital Human Avatars</i> | Dec 2024 – Dec 2027 |
| NSERC Alliance–Mitacs Grant <i>Implicit Representations for 4D Digital Humans</i> | Jul 2024 – July 2028 |
| Sony Focused Research Award <i>Multiview Burst Imaging for High Dynamic Range and Low-Light Neural Radiance Fields</i> | Sep 2024 – Sep 2025 |
| Sony Faculty Innovation Award <i>Differentiable Computational Imaging Using Coded Exposure Sensors and Flux-to-Digital Conversion</i> | Sep 2024 – Sep 2025 |
| LG Research Grant <i>Learning Controllable 4D Avatars from Portrait Video Collections</i> | May 2024 – April 2025 |
| Google Research Scholar Award <i>Computational Single-Photon Photography for Dynamic Vision in the Dark</i> | Apr 2024 – |
| Snap Inc. Research Gift <i>Camera Control in 2D Video Generators</i> | Feb 2024 – |
| NSERC Alliance–Mitacs Grant <i>Ultrafast Phase-Modulated Coherent Lidar Using Off-the-Shelf Optical Modems</i> | Jan 2024 – Jan 2026 |
| CFI Infrastructure Operating Fund <i>Neural Signal Representations for Active 3D Imaging</i> | Dec 2023 – Dec 2028 |
| NSERC Research Tools and Instruments Grant <i>Single-Photon Cameras for Extreme Computer Vision and Computational Astronomy</i> | Sep 2023 – Sep 2024 |
| XSeed/TRANSFORM HF Grant <i>Towards Home Monitoring of Heart Failure Patients via Robust and Unbiased Spatial Frequency Domain Imaging</i> | Sep 2023 – Sep 2025 |
| Connaught New Researcher Award <i>Neural Signal Representations for Active 3D Imaging</i> | Apr 2023 – Apr 2025 |
| NSERC Discovery Launch Supplement <i>Neural Signal Representations for Physics-Based Machine Learning and Active 3D Imaging</i> | Apr 2022 – Apr 2027 |
| NSERC Discovery Grant <i>Neural Signal Representations for Physics-Based Machine Learning and Active 3D Imaging</i> | Apr 2022 – Apr 2027 |
| Canada Foundation for Innovation John R. Evans Leaders Fund <i>Neural Signal Representations for Active 3D Imaging</i> | Sep 2022 – Mar 2026 |