SaiKiran Tedla

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Education

York University, Toronto, Canada Aug 2022–Aug 2026
PhD in Computer Science *GPA: A+*
PhD Thesis: Demosaicing for New Sensor Patterns
Supervisor: Dr. Michael Brown

York University Toronto, Canada Aug 2020–Jul 2022
Master of Science in Computer Science *GPA: A*
MS Thesis: Analyzing Color Imaging Failure on Consumer Grade Cameras
Supervisor: Dr. Michael Brown

University of Colorado Springs, Colorado, USA Aug 2015–May 2019
Bachelor of Science in Computer Engineering *GPA: 3.99/4.0*
Outstanding Undergraduate Student

Experience

Schmidt AI Postdoctoral Fellow, University of Toronto Sept 2026–Present
- **Computational Imaging Group, Dr. David Lindell and Dr. Kyros Kutulakos** *Toronto, Canada*
- Eric and Wendy Schmidt AI in Science Postdoctoral Fellowship; exploring generative re-photography and camera editing.

Research Student, York University May 2020–Aug 2026
- **Computational Vision and Imaging Lab, Dr. Michael Brown** *Toronto, Canada*
- Reasearch on computational imaging: color correction, exposure, focus, compression, and demosaicing.

Visiting Research Student, University of Toronto Feb 2025–Aug 2026
- **Computational Imaging Group, Dr. David Lindell and Dr. Kyros Kutulakos** *Toronto, Canada*
- Utilizing video diffusion models for image editing and working on low-light 3D reconstruction problems

Research Intern, Sony AI July 2025–Mar 2026
- **Imaging and Sensing, Dr. Feiran Li and Dr. Daisuke Iso** *Tokyo, Japan*
- Learning HDR reconstruction methods

Research Intern, Samsung AI Center Toronto Mar 2025–July 2025
- **Computational Photography, Dr. Michael Brown and Dr. Mahmoud Afifi** *Toronto, Canada*
- Improving color correction within the camera pipeline with a focus on colorimetric accuracy

Research Intern, Adobe May 2024–Jan 2025
- **NextCam, Dr. Shumian Xin, Dr. Cecilia Zhang, and Dr. Zhoutong Zhang** *San Jose, USA*
- Implementing video diffusion models and 3D representations for the task of refocusing images

Research Intern, Samsung AI Center Toronto Aug 2022–Aug 2023
- **Computational Photography, Dr. Michael Brown** *Toronto, Canada*
- Learning demosaicing for various sensor patterns and raw reconstruction (Graphics2RAW)

Computer Vision Consultant, Scanwell Health Apr 2021–Jan 2022
- **Color Measurement** *Los Angeles, USA*
- Developed custom color correction algorithms for medical imaging applications

Research Student / System Administrator, UCCS June 2015–Jan 2021

- **Vision and Security Technology (VAST) Lab, Dr. Terrance Boult** *Colorado Springs, USA*
- Built a Raspberry Pi Polarization Camera and worked on RGB camera response function estimation from polarization cues

System Architect, AMERGINT Technologies May 2020–Mar 2021

- **Advanced Systems** *Colorado Springs, USA*
- Reorganized and modified the build system for faster performance – improved build speed by up to 60%

App Development Intern, Keysight Technologies May 2018–Aug 2018

- **IT** *Colorado Springs, USA*
- Built a cross-platform emergency awareness app that went into production using Xamarin (C# and XAML)

Website Administrator, TEDxColoradoSprings / TEDxUCCS Mar 2015–Mar 2016

- **Web Development** *Colorado Springs, USA*
- Built and maintained the TEDxColoradoSprings and TEDxUCCS websites

Publications

[1] **SaiKiran Tedla**, Francesco Banterle, Trevor Canham, Karanpreet Raja, David B Lindell, Kiriakos N Kutulakos, Jiacheng Li, Feiran Li, and Daisuke Iso. "Generating HDR Video from SDR Video". In: *ACM SIGGRAPH Asia Conference (**SIGGRAPH Asia**)*. 2026. Project Page.

[2] **SaiKiran Tedla***, Joshua E Little*, Hakki Can Karaimer, and Michael S Brown. "Off the Planckian Locus: Using 2D Chromaticity to Improve In-Camera Color". In: *European Conference on Computer Vision (**ECCV**)* (2026). *Equal contribution, **Spotlight Oral**, Project Page.

[3] **SaiKiran Tedla**, Abhijith Punnappurath, Luxi Zhao, and Michael S Brown. "Examining Joint Demosaicing and Denoising for Single-, Quad-, and Nona-Bayer Patterns". In: *IEEE International Conference on Computational Photography (**ICCP**)*. 2025. Paper Link.

[4] **SaiKiran Tedla**, Zhoutong Zhang, Xuaner Zhang, and Shumian Xin. "Learning to Refocus with Video Diffusion Models". In: *ACM SIGGRAPH Asia Conference (**SIGGRAPH Asia**)*. 2025. Project Page.

[5] **SaiKiran Tedla**, Kelly Zhu, Trevor Canham, Felix Taubner, Michael S Brown, Kiriakos Kutulakos, and David Lindell. "Generating the Past, Present, and Future from a Motion-Blurred Image". In: *ACM Transactions on Graphics, SIGGRAPH Asia (**ToG**)*. 2025. Project Page.

[6] **SaiKiran Tedla***, Junyong Lee*, Beixuan Yang, Mahmoud Afifi, and Michael S Brown. "Multispectral Demosaicing via Dual Cameras". In: *IEEE/CVF International Conference on Computer Vision (**ICCV**)*. 2025. *Equal contribution, **Highlight award**, Project Page.

[7] **SaiKiran Tedla**, Scott MacKenzie, and Michael Brown. "LookToFocus: Image Focus via Eye Tracking". In: *ACM Symposium on Eye Tracking Research and Applications (**ETRA COGAIN**)*. 2024. Project Page.

[8] **SaiKiran Tedla***, Beixuan Yang*, and Michael S Brown. "Examining autoexposure for challenging scenes". In: *IEEE/CVF International Conference on Computer Vision (**ICCV**)*. 2023. *Equal contribution, Project Page.

[9] **SaiKiran Tedla**, Yunyuan Wang, Maitri Patel, and Michael S Brown. "Analyzing color imaging failure on consumer-grade cameras". In: *Journal of the Optical Society of America A (**JOSA A**)* 39.6 (2022). Paper Link.

[10] Andrew Y Guo, Anagh Malik, **SaiKiran Tedla**, Yutong Dai, Yiqian Qin, Zach Salehe, Benjamin Attal, Sotiris Nousias, Kyros Kutulakos, and David B Lindell. "Dark3R: Learning Structure from Motion in the Dark". In: *IEEE/CVF Computer Vision and Pattern Recognition (**CVPR**)*. 2026. **Highlight award**, Project Page.

[11] Hodaka Kawachi, Tomoya Nakamura, Yasushi Yagi, **SaiKiran Tedla**, Trevor Canham, and Michael Brown. "Embedding information into images taken with consumer camera using coded ambient lighting". In: *IEEE/CVF Computer Vision and Pattern Recognition Findings (**CVPRF**)*. 2026. Paper Link.

[12] Trevor D Canham, **SaiKiran Tedla**, Michael J Murdoch, and Michael S Brown. "Gain-MLP: Improving HDR Gain Map Encoding via a Lightweight MLP". In: *IEEE/CVF International Conference on Computer Vision (**ICCV**)*. 2025. Project Page.

[13] Abhijith Punnappurath, Luxi Zhao, Hoang Le, Abdelrahman Abdelhamed, **SaiKiran Tedla**, and Michael S Brown. "Improved mapping between illuminations and sensors for RAW images". In: *Journal of the Optical Society of America A (**JOSA A**)* 42.8 (2025). Paper Link.

[14] Trevor Canham, **SaiKiran Tedla**, Michael J Murdoch, and Michael S Brown. "Gamma Maps: Non-linear Gain Maps for HDR Reconstruction". In: *London Imaging Meeting (**LIM**)*. Vol. 5. Society for Imaging Science and Technology. 2024. Paper Link.

[15] Donghwan Seo, Abhijith Punnappurath, Luxi Zhao, Abdelrahman Abdelhamed, **SaiKiran Tedla**, Sanguk Park, Jihwan Choe, and Michael S Brown. "Graphics2RAW: mapping computer graphics images to sensor raw images". In: *IEEE/CVF International Conference on Computer Vision (**ICCV**)*. 2023. Paper Link.

Preprints and Patents

[1] **SaiKiran Tedla**, Zhoutong Zhang, Xuaner Zhang, and Shumian Xin. "Learning to Refocus with Video Models". Provisional patent application. 2026.

[2] **SaiKiran Tedla**, Kelly Zhu, Trevor Canham, Felix Taubner, Michael S Brown, Kiriakos Kutulakos, and David Lindell. "Generating the Past, Present, and Future from a Motion-Blurred Image". In: (2026). Provisional patent application.

[3] **SaiKiran Tedla**, Abhijith Punnappurath, Luxi Zhao, and Michael Scott Brown. "Examining Joint Demosaicing and Denoising for Single-Bayer, Quad-Bayer, and Nona-Bayer Patterns". US18823268. US Patent Application, Patent pending. May 2025. Patent Link.

[4] **SaiKiran Tedla***, Junyong Lee*, Beixuan Yang, Mahmoud Afifi, and Michael Brown. "Multispectral Demosaicing via Dual Cameras". Provisional patent application, *Equal contribution. 2025.

Honors and Awards

Doctoral Consortium 2026
European Conference on Computer Vision (ECCV)
- Accepted to the ECCV 2026 Doctoral Consortium.

Eric and Wendy Schmidt AI in Science Postdoctoral Fellowship 2026-2028
Schmidt Sciences and University of Toronto
- Awarded the Eric and Wendy Schmidt AI in Science Postdoctoral Fellowship ($85,000/year) in Dec 2025 to explore generative re-photography at the University of Toronto.

Arts and Sciences Postdoctoral Fellowship (Declined) 2026
University of Toronto
- Awarded the University of Toronto in Science postdoctoral fellowship ($65,000/year) to explore generative re-photography at the University of Toronto.

Outstanding Reviewer Award 2025, 2026
IEEE / CVPR
- Recognized among the top 5.6% of reviewers for CVPR 2025 and top 5% for CVPR 2026.

PhD Graduate Fellowship 2022-2026

York University

- Fellowship from York University ($32,500/year).

People's Choice Award 2024

Lassonde School of Engineering Photography Competition

- Received the People's Choice Award for best photograph in the annual Lassonde Engineering Photography Competition.

Masters Graduate Fellowship 2020-2022

York University

- Fellowship from York University ($17,000/year).

Outstanding Undergraduate Student 2019

University of Colorado Colorado Springs, Computer Engineering

- Awarded to the top undergraduate student in Computer Engineering.

Leon Young Scholarship 2017

Educating Children of Color, Colorado Springs

- Awarded to the student who best honors the legacy of Leon Young, the first Black mayor of Colorado Springs.

Fairness for All Scholarship 2017

Educating Children of Color, Colorado Springs

- Awarded to the student who best demonstrates fairness and justice within the community.

Talks

[1] Generative Re-Photography with Video Models — May 2026
University of Washington, Hosted by Steve Seitz — Presentation

[2] Generative Re-Photography with Video Models — Apr 2026
CMU VASC Seminar, Hosted by Ioannis Gkioulekas — Presentation

[3] Generative Re-Photography with Video Models — Apr 2026
Princeton PIXL Seminar, Hosted by Felix Heide — Presentation

[4] Generative Re-Photography with Video Models — Apr 2026
Cornell Tech, Hosted by Noah Snavely — Presentation

[5] Generative Re-Photography with Video Models — Apr 2026
MIT CSAIL Vision Seminar, Hosted by Vincent Sitzmann — Presentation

[6] Generative Re-Photography with Video Models — Apr 2026
Harvard - Zickler Lab, Hosted by Todd Zickler — Presentation

[7] Generative Re-Photography with Video Models — Apr 2026
MIT Media Lab - Camera Culture, Hosted by Ramesh Raskar — Presentation

[8] Generative Re-Photography with Video Models — Apr 2026
Stanford University, Hosted by Gordon Wetzstein — Presentation

[9] Generative Re-Photography with Video Models — Apr 2026
University of California Berkeley, Hosted by Laura Waller — Presentation

[10] Generative Re-Photography — Feb 2026
Sony AI, Tokyo, Japan — Presentation

[11] Generative Re-Photography — Oct 2025
University of Osaka, Tokyo, Japan — Presentation

[12] Generative Re-Photography — Oct 2025
Spatial AI Network, Computer Vision League (CVL) – *Osaka, Japan* — Presentation

[13] Examining Autoexposure for Challenging Scenes — Mar 2024

Vector AI Workshop on Computer Vision, *Toronto, Ontario* Presentation

Reviewing

1: Conference on Computer Vision and Pattern Recognition (CVPR), 2024–2026, **Outstanding Review Award 2025, 2026**
2: Conference on Neural Information Processing Systems (NeurIPS), 2026
3: SIGGRAPH Asia, 2026
4: European Conference on Computer Vision (ECCV), 2024, 2026
5: British Machine Vision Conference (BMVC), 2026
6: IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2025
7: SIGGRAPH, 2025
8: Winter Conference on Applications of Computer Vision (WACV), 2023

In the Media

[1] Sai T. is helping advance the future of AI-powered photography and computer vision. Jul 2026
Lassonde School of Engineering, York University Link
[2] Demand for computer scientists surging — not shrinking — as AI marches on Mar 2026
Toronto Star and York University Link
[3] Colorado Springs senior earns bachelor's degree in high school May 2019
KRDO Link

Advising and Mentorship

Graduate Students

- Karanpreet Raja (Aug 2025 – Present)
- Beixuan Yang (Mar 2022 – Mar 2025)

Undergraduate Students

- Joshua Little (Apr 2025 – Mar 2026)
- Karanpreet Raja (Jan 2025 – Aug 2025)
- Rajat Ajaykumar (Aug 2022 – Mar 2023)

Teaching

EECS 1516: Object-Oriented Design and Principles Winter 2024, Winter 2025, Winter 2026
Teaching Assistant, York University

EECS 1022: Programming for Mobile Computing Fall 2024
Teaching Assistant, York University

EECS 1570: Computing for Psychology Winter 2023
Teaching Assistant, York University

MATH 1090: Introduction to Logic for Computer Science Fall 2022
Teaching Assistant, York University

EECS 1012/1015: Introduction to Computer Science Fall 2021, Winter 2022, Fall 2023
Teaching Assistant, York University

CS 1150: Principles of Computer Science Fall 2018, Winter 2019
Teaching Assistant, University of Colorado Colorado Springs

Skills

Programming: Java, C++, C, Python, HTML, CSS, JavaScript, MATLAB

Projects: FastSwap (social media app for contact sharing via QR codes); Political Ideology Detector (NLP-based web app); Robotic Car (GPS navigation, obstacle avoidance, sensor integration); Quadcopters (reverse engineering and reconstruction)

Certifications: Oracle Java SE 8 Professional (OCP); C++ Associate (C++ Institute); CompTIA Linux+; LPIC-1: Linux Administrator

References

Dr. Michael S. Brown
Professor, Dept. of Electrical Engineering and Computer Science
York University; Vice President, Samsung Research America; Director, Samsung AI Center Toronto
Toronto, Canada
Webpage
Email: michael.brown@yorku.ca

Dr. David B. Lindell
Assistant Professor, Dept. of Computer Science
University of Toronto; Faculty Affiliate, Vector Institute
Toronto, Canada
Webpage
Email: lindell@cs.toronto.edu

Dr. Kiriakos N. Kutulakos
Professor, Dept. of Computer Science
University of Toronto
Toronto, Canada
Phone: (416) 946-8045
Webpage
Email: kyros@cs.toronto.edu