Daniel Lichy

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RESEARCH OVERVIEW

My research intersects machine learning, computer vision, and computational photography, focusing on the robust reconstruction of 3D geometry and material properties using multi-view and multi-illumination data.

CORE SKILLS

Languages: Python, Matlab, C/C++, Java
Libraries: PyTorch, OpenCV

EDUCATION

University of Maryland — College Park, MD
Ph.D. in Computer Science — 2024 (expected)

University of Maryland — College Park, MD
Bachelor of Science, Mathematics — May, 2015

WORK EXPERIENCE

NVIDIA Research — Remote
Intern, Learning and Perception Research Group — June, 2022 – Present
Supervisor: Dr. Orazio Gallo
- Developed depth estimation models capable of generalizing across different camera fields-of-view, paper in submission

University of Maryland — College Park, MD
Research Assistant, Deparment of Computer Science — August, 2018 – Present
Advisor: Dr. David Jacobs
- Worked on inverse rendering of objects and human faces culminating in publications in CVPR and TPAMI

University of Maryland — College Park, MD
Teaching Assistant, Immersive Media Design Program — September, 2021 – May, 2022
Supervisor: Dr. Roger Eastman
- Developed 3D scanning procedures used by students in the Art and Computer Science programs for interdisciplinary projects

National Institute of Biomedical Imaging and Bioengineering — Bethesda, MD
Postbac IRTA Fellow — May, 2015 – July, 2017
Supervisor: Dr. Alex Gorbach
- Developed Matlab-based image segmentation software for tracking cell deformations and conducted time-series data analysis on various biological processes

COMMUNITY ENGAGEMENT

AI4All Project leader — August, 2019 & August, 2021
- Led a team of underrepresented high school students in project to classify leaf images using deep learning

SELECTED PUBLICATIONS

- **Daniel Lichy**, Hang Su, Abhishek Badki, Jan Kautz, and Orazio Gallo. Field-of-View Agnostic Depth Estimation for Cross-Dataset Generalization. International Conference on 3D Vision, 2023
- Dongxu Zhao, **Daniel Lichy**, Pierre-Nicolas Perrin, Jan-Michael Frahm, and Soumyadip Sengupta. MVPSNet: Fast Generalizable Multi-View Photometric Stereo. In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, 2023
- **Daniel Lichy**, Soumyadip Sengupta, and David W. Jacobs. Fast Light-Weight Near-Field Photometric Stereo. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022
- **Daniel Lichy**, Jiaye Wu, Soumyadip Sengupta, and David W. Jacobs. Shape and Material Capture at Home. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, 2021
- Soumyadip Sengupta, **Daniel Lichy**, Angjoo Kanazawa, Carlos Castillo, and David W. Jacobs. SfSNet: Learning Shape, Reflectance and Illuminance of Faces in the Wild. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2020