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INTERESTS | Computational photography, computational imaging, computer vision, deep learning

EDUCATION

PhD	Stanford University	Electrical Engineering	2019 – 2024 (Expected)
MS	Stanford University	Electrical Engineering (GPA 3.69/4.00)	2019 - 2021
BS	Stanford University	Bioengineering (GPA 3.90/4.00)	2015 - 2019

Relevant Coursework | Geometric and Topological Data Analysis, Fourier Optics, Modern Optics, Convex Optimization, Linear Dynamical Systems, CNNs, AI/ML, Meta-Learning, Decision Making under Uncertainty, NLP

EXPERIENCE

[Adobe Research](#) | Research Scientist Intern

June 2022 – Present | San Jose, CA

Working with Kevin Blackburn-Matzen, Simon Niklaus, and Oliver Wang. Learning end-to-end multi-layer depth prediction.

[Stanford Computational Imaging Lab](#) | PhD Candidate

Jan 2020 – Present | Stanford University

Advised by Prof. Gordon Wetzstein.

Publications

Learning Spatially Varying Pixel Exposures for Motion Deblurring.

Nguyen, C.M., Martel, J.N.P., Wetzstein, G. ICCP, 2022.

Depth from Defocus with Learned Optics for Imaging and Occlusion-Aware Depth Estimation.

Ikoma, H., Nguyen, C.M., Metzler, C.A., Peng, Y., Wetzstein, G. ICCP, 2021.

[Brian Feldman Lab](#) | Research Assistant

Sep 2017 – Mar 2019 | Stanford University

Performed RNA-Seq analysis in mature adipocytes to identify metabolic systemic cues for diabetes.

[Markus Schwaninger Lab](#) | Research Assistant

July 2018 – Sept 2018 | Universität zu Lübeck, Lübeck, Germany

Investigated leptin transport across the blood-brain barrier in porcine cortical endothelial in vitro models.

[Stanley Qi Lab](#) | Research Assistant

Mar 2016 – Feb 2018 | Stanford University

Developed chemically-inducible CRISPR/dCas9-based dimerization systems for human chromatin 3D organization and spatiotemporal gene dynamics tracking through live cell imaging.

Publications

CRISPR-Mediated Live Imaging of Genome Editing and Transcription.

Wang, H., Nakamura, M., Abbott, T.R., Zhao, D., Luo, K., Yu, C., Nguyen, C.M., ..., Qi, L.S. Science, 2019.

CRISPR-Mediated Programmable 3D Genome Positioning and Nuclear Organization.

Wang, H., Xu, X., Nguyen, C.M., Liu, Y., Gao, Y., Lin, X., Daley, T., Kipniss, N.H., La Russa, M., Qi, L.S. Cell, 2018.

Press: [Stanford Medicine](#), [Stanford Daily](#), [Quanta](#), [Science](#)

SELECTED PROJECTS

Multi-layer Depth Prediction from a Single Image | June 2022 - Present

Developing a deep learning model that can use context-aware information for multi-layered depth prediction in a self-supervised fashion. Using monocular depth estimators, softmax splatting, and adversarial learning. Tools: PyTorch.

Learning Spatially Varying Pixel Exposures for Motion Deblurring | Mar 2021 – Mar 2022

Developed an end-to-end model that can utilize information from different exposures with varying noise instantiations.

Prototyped implementation on physical prototype to capture data. Tools: PyTorch, focal-plane sensor—processors.

Depth from Defocus with Learned Optics | Aug 2020 – Jan 2021

Published in ICCP 2021. Personal contributions include rendering ground truth examples in Blender, running analyses of baseline models, designing 3D print-outs for building the camera prototype, PSF and demo captures with prototype. Tools/Skills: PyTorch, Blender, Onshape, real-life capture, PSF calibration.

HONORS [NSF GRFP](#), [Generation Google Scholarship](#), [German Academic Exchange Service Scholarship](#), Stanford Bio-X

Undergrad Research Fellowship, NSF Undergrad Research Fellowship, Google igniteCS Grant

TECHNICAL SKILLS

Experienced | PyTorch, Python, MATLAB

Familiar | Onshape, Blender, Zemax, ImageJ, InkScape, Unity