

Zhanghao Sun

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EDUCATIONS

STANFORD UNIVERSITY

- Ph.D., Electrical Engineering. 09/2018-01/2024
Advisor: Prof. Olav Solgaard, Co-Advisor: Prof. Gordon Wetzstein
- M.S., Electrical Engineering. 09/2020-01/2021

PEKING UNIVERSITY

B.S., Physics 09/2014-07/2018

SELECTED PUBLICATIONS

- C. Valdez, **Z. Sun**, et al., “High Contrast Nulling in Photonic Meshes Through Architectural Redundancy”, [Optics Letters 2025](#)
- Z. Sun**, X. Zuo, et al., “Robust structured light with efficient redundant codes”, [Optics Express 2024](#)
- D. Sirbu, R. Belikov, K. Fogarty, **Z. Sun**, et al., “AstroPIC: Architecture options and trades for integrated photonic coronagraphy”, [American Astronomical Society Meeting Abstracts 2024](#)
- Z. Sun**, S. Pai, C. Valdez, et al., “Scalable Low-latency Optical Phase Sensor Array”, [Optica 2023](#)
- S. Pai, **Z. Sun**, et al., “Experimentally realized in situ backpropagation for deep learning in nanophotonic neural networks”, [Science 2023](#)
- Z. Sun**, Wei Ye, Jinhui Xiong, et al., “Consistent Direct Time-of-Flight Video Depth Super-Resolution”, [CVPR 2023](#)
- T. Brevin, **Z. Sun**, et al., “Energy-Efficient Adaptive 3D Sensing”, [CVPR 2023](#)
- Z. Sun**, J. Wang, Y. Wu, S. Nayar, “Seeing Far in the Dark with Patterned Flash”, [ECCV 2022](#)
- Z. Sun**, R. Quan, O. Solgaard, “Resonant Scanning Design and Control for Fast Spatial Sampling”, [Scientific Reports 2021](#)
- Z. Sun**, R. Quan, O. Solgaard, “Fast Spatial Sampling with Phase Controlled Resonant Scanner”, [CLEO: Applications and Technology 2021 \(Oral\)](#)
- Z. Sun**, D. Lindell, O. Solgaard, G. Wetzstein, “SPADnet: Deep RGB-SPAD Sensor Fusion Assisted by Monocular Depth Estimation”, [Optics Express 2020](#)
- G. Wang, **Z. Sun**, et al., “Anomalous Hall effect in ferromagnetic Weyl semimetal candidate $Zr_{1-x}V_xCo_{1.6}Sn$ ”, [Chinese Physics B 2020](#)
- X. Xu, C. Liu, **Z. Sun**, et al., “Interfacial engineering in graphene bandgap”, [Chemical Society Reviews 2018](#)
- X. Xu, D. Yi, Z. Wang, J. Yu, Z. Zhang, R. Qiao, **Z. Sun**, et al., “Greatly enhanced anticorrosion of Cu by commensurate graphene coating”, [Advanced Materials 2018](#)
- L. Qin, X. Pan, F. Song, L. Zhang, **Z. Sun**, et al., “Confined-path interference suppressed quantum correction on weak antilocalization effect in a BiSbTeSe₂ topological insulator”, [Applied Physics Letters 2018](#)

For full publication list, please refer to my [google scholar profile](#)

PATENTS

Z. Sun, R. Quan, O. Solgaard, “Multiple-frequency-component scanning involving scan-pattern design and balanced or optimized attributes”, [US20240094394A1](#)

Z. Sun, R. Quan, O. Solgaard, S. Manosalvas-kjono, “Apparatuses and methods involving adaptive scanning for an optimized region of interest”, [US20230236292A1](#)

R. Quan, O. Solgaard, S. Manosalvas-kjono, **Z. Sun**, “Method and apparatus for evaluating electrostatic or nonlinear devices”, [US20220089432A1](#)

R. Quan, O. Solgaard, S. Manosalvas-kjono, **Z. Sun**, “Method and apparatus for evaluating electrostatic or nonlinear devices”, [US11192779B2](#)

INDUSTRY EXPERIENCE

Apple

- CV/ML Research Engineer in Hardware Technology. 11/2023-Now
 - Image/video/3D compression and reconstruction.

Adobe

- Research Intern, Computational Imaging. 06/2023-09/2023
 - **Video 3D reconstruction algorithm**: Deep-learning based SLAM system that produce high quality dense 3D reconstruction and camera pose estimations from RGB sequence.

Meta Reality Labs

- Research Intern, On-Device AI 06/2022-09/2022
- Part-time Student Researcher, On-Device AI 09/2022-12/2022
 - **Direct time-of-flight (dToF) processing algorithm**: Deep-learning based dToF sensor video processing framework and related hardware prototyping.

Snapchat

- Research Intern, Computational Imaging 06/2021-09/2021
 - **Low-light imaging**: Novel night imaging hardware prototype and deep learning-based reconstruction algorithm. Also worked on image restoration for under display sensors.
 - **Structured light 3D imaging**: Novel structured light system and denoising algorithms

Adaps Photonics

- Prototype Engineer Intern 07/2019-09/2019
 - **Imaging pipeline emulation & Processing algorithm design**: Physics-based LiDAR sensor simulations
- Prototype Engineer Intern 07/2018-08/2018
 - **Nanofabrication process design**: Physics-based simulations on ion implantation, etching, and annealing.