

Kevin Zhang

[kzhang24@umd.edu] | <https://kevinwzhang.com>

Education and Experience

- 2021- **University of Maryland, College Park**
Ph.D. in Computer Science
Advisors: Christopher Metzler and Jia-Bin Huang
Research topics: Sensor fusion, inverse problems, 3D reconstruction, computational imaging
- Summer 2025 **Adobe**
Research Scientist Intern
Mentors: Eric Kee, Adam Pikielny, Connelly Barnes
Research topic: Generative models for reflection removal
- Summer 2024 **Adobe**
Research Scientist Intern
Mentors: Aaron Hertzmann, Stephen DiVerdi, Jose Echevarria
Research topic: Correcting marginal distortion in wide angle photographs
- Summer 2019 **Google**
Software Engineering Intern
- 2017-2021 **University of California, Berkeley**
B.A. in Computer Science + Pure Mathematics
Advisors: Laura Waller and Miki Lustig
Research topics: Deep learning for MRI Reconstructions, Fluorescence Microscopy

Select Publications (* indicates equal contribution)

- [CVPR 2025] MaDCoW: Marginal Distortion Correction for Wide-Angle Photography with Arbitrary Objects
K. Zhang, J.-B. Huang, J. Echevarria, S. DiVerdi, A. Hertzmann
IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2025
- [CVPR 2024] Seeing the World through Your Eyes
K. Zhang^{*}, H. Alzayer^{*}, B. Feng, C. A. Metzler, J.-B. Huang
IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2024
- [IEEE TIP 2024] A Scalable Training Strategy for Blind Multi-Distribution Noise Removal
K. Zhang, S. Kulshrestha, C. A. Metzler
IEEE Transactions on Image Processing, 2024

- [SIGGRAPH 2024] AONeuS: A Neural Rendering Framework for Acoustic-Optical Sensor Fusion
K. Zhang^{*}, M. Qadri^{*}, A. Hinduja, M. Kaess, A. Pediredla, C. A. Metzler
ACM SIGGRAPH Conference Papers, 2024

Other Publications

- [NeurIPS 2024] ConVRT: Consistent Video Restoration Through Turbulence with Test-time Optimization of Neural Video Representations
H. Cai, J. Chen, B. Y. Feng, W. Jiang, M. Xie, **K. Zhang**, A. Veeraraghavan, C. Metzler
Conference on Neural Information Processing Systems, 2024
- [IEEE TPAMI 2024] Z-Splat: Z-Axis Gaussian Splatting for Camera-Sonar Fusion
Z. Qu, O. Vengurlekar, M. Qadri, **K. Zhang**, M. Kaess, C. Metzler, S. Jayasuriya, A. Pediredla
IEEE Transactions on Pattern Analysis and Machine Intelligence, 2024
- [CVPR 2023] PAniC-3D: Stylized Single-View 3D Reconstruction From Portraits of Anime Characters
S. Chen, **K. Zhang**, Y. Shi, H. Wang, Y. Zhu, G. Song, S. An, J. Kristjansson, X. Yang, M. Zwicker
IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2023
- [MICCAI 2021] Memory-Efficient Learning for High-Dimensional MRI Reconstruction
K. Wang, M. Kellman, C. M. Sandino, **K. Zhang**, S. S. Vasanaawala, J. I. Tamir, S. X. Yu, M. Lustig
Medical Image Computing and Computer Assisted Intervention – MICCAI, 2021
- [IEEE TCI 2020] Memory-Efficient Learning for Large-Scale Computational Imaging
M. Kellman, **K. Zhang**, E. Markley, J. Tamir, E. Bostan, M. Lustig, L. Waller
IEEE Transactions on Computational Imaging, 2020
- [SPIE 2020] 3D Fluorescence Deconvolution with Deep Priors (Conference Presentation)
K. Zhang, M. R. Kellman, E. Bostan, L. Waller
3-Dimensional and Multidimensional Microscopy: Image Acquisition and Processing, 2020

Preprints/Works in Submission

- [arXiv 2022] MetaDIP: Accelerating Deep Image Prior with Meta Learning
K. Zhang, M. Xie, M. Gor, Y.-T. Chen, Y. Zhou, C. A. Metzler
arXiv, 2022

Invited Talks

- 07/2025 **Stanford** Vision and Learning Lab
3D Reconstruction in Challenging Environments with Differentiable Rendering
- 07/2025 **California Institute of Technology** Computer Vision Group
3D Reconstruction in Challenging Environments with Differentiable Rendering
- 06/2025 **University of California, Berkeley** Berkeley AI Research
3D Reconstruction in Challenging Environments with Differentiable Rendering
- 07/2024 **University of California, Berkeley** Computational Imaging Lab
A Differentiable Rendering Approach to 3D Reconstruction with Nonconventional Cameras
- 03/2024 **Massachusetts Institute of Technology** NLOS Reading Group
Seeing the World Through Your Eyes
- 01/2020 **ISMRM** Workshop on Data Sampling and Reconstruction
Memory-Efficient Learning for Unrolled 3D MRI Reconstructions

Service

- Reviewer CVPR, ICCV, SIGGRAPH Asia, ICLR, 3DV, IEEE TSP, IEEE TIP
- University Service Organizer, University of Maryland Computer Vision Seminar
Organizer, Computational Imaging Workshop at Technica
(largest hackathon for underrepresented genders)

Awards

- 2024 **Oral Presentation** (90/11532 = 0.78% Selection Rate)
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2024.
- 2021 **Dean's Fellowship**, University of Maryland

Skills

- Languages/
frameworks Python (PyTorch, NumPy, SciPy, Matplotlib, OpenCV-python, plotly.py),
Java, Javascript, HTML/CSS
- Other
technologies Linux/Unix, Git, Blender, Slurm, Adobe Illustrator, Adobe Photoshop