Kevin Zhang

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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 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, Flourescence Microscopy

Select Publications (* indicates equal contribution)

[CVPR 2024] Seeing the World through Your Eyes
H. Alzayer*, **K. Zhang***, B. Feng, C. A. Metzler, J.-B. Huang
IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2024

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

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. Vasanawala, 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

[In submission 2024] MaDCoW: Marginal Distortion Correction for Wide-Angle Photography with Arbitrary Objects
K. Zhang, J.-B. Huang, J. Echevarria, S. DiVerdi, A. Hertzmann
In submission, 2024

[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

07/2024 **University of California, Berkeley** Computational Imaging Lab
A Differentiable Rendering Approach to 3D Reconstruction with Nonconventional Cameras

03/2024 **Massachussets 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 IEEE TSP, IEEE TIP, ICLR, 3DV

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