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- EDUCATION **University of Maryland, College Park** **2021-**
Candidate for Ph.D. in Computer Science
- University of California, Berkeley** **2017-2021**
B.A. in Computer Science, B.A in Mathematics
Overall GPA: 3.86, EE/CS GPA: 3.95
- PUBLICATIONS
- [1] *PAniC-3D: Stylized Single-view 3D Reconstruction from Portraits of Anime Characters*
Shuhong Chen, **Kevin Zhang**, Yichun Shi, Heng Wang, Yiheng Zhu, Guoxian Song, Sizhe An, Janus ór Kristjánsson, Xiao Yang, Matthias Zwicker
https://openaccess.thecvf.com/content/CVPR2023/html/Chen_PAniC-3D_Stylized_Single-View_3D_Reconstruction_From_Portraits_of_Anime_Characters_CVPR_2023_paper.html
CVPR 2023
- [2] *Memory-efficient Learning for High-Dimensional MRI Reconstruction*
Ke Wang, Michael Kellman, Christopher M Sandino, **Kevin Zhang**, Shreyas S. Vasanaawala, Jonathan I Tamir, Stella X Yu, Michael Lustig
<https://miccai2021.org/openaccess/paperlinks/2021/09/01/305-Paper2251.html>
MICCAI 2021
- [3] *Memory-efficient Learning for Large-scale Computational Imaging*
Michael Kellman, **Kevin Zhang**, Jon Tamir, Emrah Bostan, Michael Lustig, Laura Waller
<https://ieeexplore.ieee.org/document/9204455>
IEEE Transactions on Computational Imaging, 2020
- TALKS
- [4] *3D Fluorescence Deconvolution with Deep Priors*
Joint work with Michael Kellman, Emrah Bostan, and Laura Waller.
<https://doi.org/10.1117/12.2545041>
Society of Photographic Instrumentation Engineers (SPIE) West, February 2020
- [5] *Memory-Efficient Learning for Unrolled 3D MRI Reconstructions*
Joint work with Michael Kellman, Jon Tamir, Emrah Bostan, Michael Lustig, and Laura Waller.
Recording of talk: <https://youtu.be/Aypmy01qVK8>
International Society of Magnetic Resonance in Imaging (ISMRM) Workshop on Data Sampling & Image Reconstruction, January 2020
- PREPRINTS
- [6] *Seeing the World through Your Eyes*
Hadi Alzayer*, **Kevin Zhang*** (* indicates equal contribution), Brandon Feng, Christopher A. Metzler, Jia-bin Huang
<https://arxiv.org/abs/2306.09348>, 2023
- [7] *A Scalable Training Strategy for Blind Multi-Distribution Noise Removal*
Kevin Zhang, Sakshum Kulshrestha, Christopher A. Metzler
<https://arxiv.org/abs/2310.20064>, 2023
- [8] *MetaDIP: Accelerating Deep Image Prior with Meta Learning*
Kevin Zhang, Mingyang Xie, Maharshi Gor, Yi-Ting Chen, Yvonne Zhou, Christopher A. Metzler

RESEARCH
EXPERIENCE

UMD CP Computational Sensing Lab

Graduate Research Assistant

Aug 2021 -

- Working on fusing RGB and imaging sonar data with deep learning.
- Designed and implemented method for radiance field reconstruction from corneal reflections. [6]
- Developed training strategy to train denoisers to denoise noisy images across multiple noise parameters with consistent performance and built optical setup to validate the method on real data [7].
- Accelerated fitting Deep Image Prior and related architectures using Model Agnostic Meta-Learning to solve inverse problems like denoising quickly without training data. [8]
- Coauthors: Professor Christopher Metzler, Professor Jiabin Huang

Berkeley Computational Imaging Lab

Research Assistant

Aug 2018 - May 2020

- Utilized invertibility of deep neural networks to enable memory-efficient deep learning for large-scale computational imaging problems. [2,3,5]
- Implemented 3D convolutional neural networks using PyTorch to deconvolve + denoise 3D MRI images. [2,3,5]
- Applied convolutional neural network as a deep image prior for the task of 3D fluorescence deconvolution. [4]
- Advisor: Professor Laura Waller

TEACHING
EXPERIENCE

**Discrete Mathematics and Probability
Theory (CS 70)**

Teaching Assistant

**Jan - May 2020, Sep - Dec 2019,
Jan - May 2019**

Taught weekly discussion sections, held office hours, developed course content, maintained course website, and helped facilitate online lectures.

Grader

Jun - Aug 2018

Graded students' weekly homeworks.

WORK
EXPERIENCE

Google

Software Engineering Intern

Jun - Aug 2019

- Added experimental AR features for helping drivers and riders find each other to Google's ridesharing SDK's test app built using Android framework (ARCore, Java, XML).
- Built a microservice to facilitate communication about current position between driver test app and rider test app using Python (Flask) and Google Cloud Platform.

TECHNICAL
SKILLS

Languages/frameworks: Python (PyTorch, NumPy, SciPy, Matplotlib, OpenCV-python, plotly.py), Java, Javascript, HTML/CSS

Other technologies: Unix, Git, Blender, Slurm