

# Weiyun Jiang

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## Education

- Expected 2027 **Rice University**, Houston, TX  
Doctor of Philosophy, Electrical and Computer Engineering  
Advisor: Ashok Veeraraghavan  
GPA: 4.00/4.00
- 2020–2022 **Stanford University**, Stanford, CA  
Master of Science, Electrical Engineering  
Advisor: Gordon Wetzstein  
GPA: 4.01/4.30
- 2016–2020 **University of California, Santa Barbara**, Santa Barbara, CA  
Bachelor of Science, Electrical Engineering  
Advisor: Zheng Zhang  
GPA: 3.99/4.00, *summa cum laude*  
Outstanding Undergraduate EE Student Award (highest GPA in the major)

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## Publications

- TOG 2026 **W. Jiang**, H. Guo, C. A. Metzler, A. Veeraraghavan, “Guidestar-Free Adaptive Optics with Asymmetric Apertures,” *ACM Transactions on Graphics (TOG)*, 2026. To be presented at *SIGGRAPH 2026*.
- CVPRW 2025 **W. Jiang**, D. K. Jangid, S. Lee, H. R. Sheikh, “Latent Patched Efficient Diffusion Model for High Resolution Image Synthesis,” *Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, 2025.
- NeurIPS 2024 H. Cai, J. Chen, B. Y. Feng, **W. Jiang**, M. Xie, K. Zhang, C. Fermuller, Y. Aloimonos, A. Veeraraghavan, C. A. Metzler, “Temporally Consistent Atmospheric Turbulence Mitigation with Neural Representations,” *Conference on Neural Information Processing Systems (NeurIPS)*, 2024.
- CVPRW 2023 **W. Jiang**, V. Boominathan, and A. Veeraraghavan, “NeRT: Implicit Neural Representations for Unsupervised Atmospheric Turbulence Mitigation,” *Conference on Computer Vision and Pattern Recognition Workshops (CVPRW)*, 2023.
- TCAD 2020 **W. Jiang**, K. Zhang, C. Y. Lin, F. Xing, and Z. Zhang, “Sparse Tucker Tensor Decomposition on a Hybrid FPGA-CPU Platform,” *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD)*, 2020.

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## Research Experience

2022–Present **Rice Computational Imaging Lab**, *Houston, TX*

Advisor: Ashok Veeraraghavan

- Built the first closed-loop adaptive optics system capable of real-time optical correction without a guidestar or specialized wavefront sensor.
- Developed an unsupervised approach for imaging through atmospheric and water turbulence.

Mar–Sep 2021 **Stanford Computational Imaging Lab**, *Stanford, CA*

Advisor: Gordon Wetzstein

- Leveraged FiLM-based priors to solve general ill-posed inverse problems.
- Designed a novel implicit neural network, local FiLM-ed SIREN, for image inpainting.
- Investigated the ability of implicit neural networks to learn priors using GAN loss.
- Achieved higher PSNR than baseline CNN and U-Net methods.

2018–2020 **UCSB Uncertainty and Big Data Analysis Lab**, *Santa Barbara, CA*

Advisor: Zheng Zhang

- Accelerated sparse Tucker tensor decomposition on a hybrid FPGA-CPU platform.
- Designed a high-level synthesis FPGA implementation for sparse Tucker decomposition.
- Replaced conventional SVD with QR decomposition with column pivoting to reduce storage and speed up computation.
- Achieved  $23.6\times$ – $1091\times$  speedup and over 95% energy savings on real-world tensor datasets over CPU.

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## Research Internships

May–Jul 2024 **Samsung Research America – Mobile Innovation Lab**, *Plano, TX*

Advisors: Seok-Jun Lee and Hamid Sheikh

- Designed and implemented a latent-patched diffusion framework for high-resolution image synthesis, significantly reducing GPU VRAM requirements and improving inference speed over state-of-the-art patched diffusion models.
- Internship work resulted in one pending patent and a CVPR Workshop publication.

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## Awards

2022–2023 Edmund M. Dupree Distinguished Fellow of ECE Department, Rice University

2020 Outstanding Senior of Class 2020, College of Engineering, UCSB (highest GPA in Electrical Engineering; one awardee selected from the EE program)

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## Skills & Relevant Courses

Programming Python, C++/C, C#, Unity, Blender, MATLAB, Arduino,  $\text{\LaTeX}$

Courses Machine Learning; Artificial Intelligence: Principles and Techniques; Natural Language Processing with Deep Learning; Computational Imaging and Display; Convolutional Neural Networks for Visual Recognition; Computational Methods for Biomedical Image Analysis and Interpretation; Deep Generative Models; Introduction to Computer Graphics and Imaging; Mixed-Reality in Medicine; Computer Organization and Systems