

YUFAN ZHANG

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EDUCATION	Department of Computer Science, George Mason University Virginia, US <i>Ph.D. Candidate in Computer Science</i> Feb. 2024 - Present • GPA: 4.0 / 4.0 • Advisor: Prof. Jinwei Ye Department of Electrical Engineering, Columbia University New York, US <i>M.S. in Electrical Engineering</i> Sep. 2022 - Dec. 2023 • GPA: 3.72 / 4.0 Department of Electrical Engineering, Wuhan University Wuhan, China <i>B.Eng. in Electrical Engineering</i> Sep. 2018 - Jun. 2022 • GPA: 3.62 / 4.0
RESEARCH INTEREST	Computer Vision: Event camera, Neural network. Computational Photography: Imaging system. Computer Graphics: 3D Gaussian Splatting, Diffusion model, Inverse rendering.
PUBLICATIONS	Seeing A 3D World in A Grain of Sand. Yufan Zhang, Yu Ji, Yu Guo, Jinwei Ye. <i>CVPR 2025.</i> Develop a snapshot imaging technique for recovering 3D surrounding views of miniature scenes. M2P2: A Multi-Modal Passive Perception Dataset for Off-Road Mobility in Extreme Low-Light Conditions. Aniket Datar, Anuj Pokhrel, Mohammad Nazeri, Madhan B. Rao, Chenhui Pan, Yufan Zhang, Andre Harrison, Maggie Wigness, Philip R. Osteen, Jinwei Ye, Xuesu Xiao. <i>arXiv 2024.</i> Develop a Multi-Modal Passive Perception dataset, M2P2, to enable off-road mobility in low-light to no-light conditions.
CURRENT PROJECTS	Diffusion Model Relighting Develop a diffusion model for relighting, by estimating albedo, normal, depth, roughness, etc., and re-rendering under target lighting. Turbulence Simulator Integrate depth information into a turbulence simulator to create more realistic images affected by turbulence. Environmental Scattering Removal Remove fog and scattering effects from images and then use 3DGS to reconstruct realistic scenes.
TEACHING EXPERIENCES	Teaching Assistant, George Mason University Feb. 2025–Present CS 451 Computer Graphics Instructor: Prof. Jinwei Ye
SKILLS	Programming: Python, C, MATLAB, Java, HTML & CSS, SQL. Operating Systems: UNIX/Linux, Windows. Tools and Frameworks: IntelliJ, PyCharm, VSCode, React, Spring, MySQL, AWS EC2.