SKYLAR WOLFGANG WURSTER

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SKILLS

3D, GenAI, spatial data, rendering, diffusion transformers, neural representations, gaussian splatting, NeRF, python, pytorch, CUDA, C++, kubernetes

EMPLOYMENT

Adobe January 2025 - Current
Applied Scientist *San Francisco, CA*

- Shipped AI-powered 3D feature (Rotate Object) in Photoshop, Firefly Boards, Project Aqua
- Built general data/evaluation pipelines for 3D GenAI models
- Deployed/improved 3D reconstruction pipeline for enterprise capture at-scale

Adobe June 2024 - August 2024
AI/ML Research Intern *San Francisco, CA*

- Implemented 3D data ingestion+rendering pipeline for AI model training.
- Improved 3D capture pipeline CI/CD and explored ML calibration.

Tencent Pixel Lab June 2023 - December 2023
Graphics Research Intern *New York, NY*

- Developed a Gabor-based neural scene representation published at SIGGRAPH 2024.

Argonne National Lab Summers 2020-2022
Research Aide *Lemont, IL*

- Published 3 papers for topics covering hierarchical super-resolution and implicit neural representations for 3D scientific data.

The Ohio State University August 2020 - Dec 2024
Graduate Research/Teaching Assistant *Columbus, OH*

- Research at the intersection of graphics, scientific visualization, and deep learning.

EDUCATION

Ph.D in Computer Science August 2019 - December 2024
The Ohio State University, Advised by Prof. Han-Wei Shen

B.S. in Computer Science and Engineering August 2015 - May 2019
The Ohio State University
Magna Cum Laude, Dean's List 8 semesters

PUBLICATIONS

Tianyu Xiong, **Skylar Wurster**, Han-Wei Shen. "Refine Now, Query Fast: A Decoupled Refinement Paradigm for Implicit Neural Fields." In *Proc. International Conference on Learning Representations (ICLR)*, 2026.

Skylar Wurster, Ran Zhang, and Changxi Zheng. "Gabor Splatting for High-Quality Gigapixel Image Representations." In *ACM SIGGRAPH 2024 Posters*.

Tianyu Xiong, **Skylar W. Wurster**, Hanqi Guo, Tom Peterka, and Han-Wei Shen. "Regularized Multi-Decoder Ensemble for an Error-Aware Scene Representation Network". https://arxiv.org/abs/2407.19082.

S. W. Wurster, T. Xiong, H. -W Shen, H. Guo, T. Peterka. "Adaptively Placed Multi-Grid Scene Representation Networks for Large-Scale Data Visualization," In *Proc. IEEE VIS*, 2023.

S. W. Wurster, H. Guo, T. Peterka, H. -W. Shen. "Neural Stream Functions," In *Proc. IEEE PacificVIS*, 2023.

S. W. Wurster, H. Guo, H. -W. Shen, T. Peterka and J. Xu, "Deep Hierarchical Super Resolution for Scientific Data," *IEEE Transactions on Visualization and Computer Graphics*, 2022. Early access.

Neng Shi, Jiayi Xu, **S. W. Wurster**, Hanqi Guo, Jonathan Woodring, Luke Van Roekel, and Han-Wei Shen. "GNN-Surrogate: A Hierarchical and Adaptive Graph Neural Network for Parameter Space Exploration of Unstructured-Mesh Ocean Simulations". *IEEE Transactions on Visualization and Computer Graphics (Proc. IEEE PacificVis 2022)*, 2022, Accepted.

Xu, J., Guo, H., Shen, H.-W., Raj, M., **S. W. Wurster**, Peterka, T.. "Reinforcement Learning for Load- balanced Parallel Particle Tracing". *IEEE Transactions on Visualization and Computer Graphics*. 2022.

Bruggeman, K. and **S. W. Wurster** 2018. "The Hiatus System: virtual healing spaces: low dose mindfulness based stressed reduction virtual reality application". *SIGGRAPH '18 ACM SIGGRAPH 2018 Appy Hour*. 8

Paul Hyunjin Kim, Jacob Grove, **S. W. Wurster**, and Roger Crawfis. 2019. "Design-centric maze generation". In *Proceedings of the 14th International Conference on the Foundations of Digital Games (FDG '19)*. ACM, New York, NY, USA, Article 83, 9 pages.