# SKYLAR WOLFGANG WURSTER

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## RESEARCH INTEREST

My focus in my PhD is on machine learning and its application to scientific data visualization/analysis and computer graphics. I also remain interested in areas of augmented reality, mixed reality, and virtual reality.

## EDUCATION

**Ph.D in Computer Science** August 2019 - present
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

## EMPLOYMENT

**The Ohio State University** August 2020 - present
*Graduate Research Assistant*

· Advised by Professor Han-Wei Shen, researching scientific visualization and deep learning, including hierarchical super-resolution and implicit neural representations for 3D scientific data.

**Argonne National Lab** May 2020/21/22 - August 2020/21/22
*Research Aide*

· Continued the same research as I work on under my advisor at OSU, but jointly advised by Argonne scientists with continued collaboration during the school year.

**The Ohio State University** August 2019 - May 2020
*Graduate Teaching Assistant*

· Taught CSE 2221: Software 1 to a class of 40 students, and scored above average on all student evaluation questions compared to instructors within the university, the college of engineering, and the department of computer science.

**The Ohio State University - ACCAD** January 2017 - May 2019
*Undergraduate Research Assistant*

**United Airlines** May 2018 - August 2018
*Contact Center IT Intern*

**Air Force Research Lab - Discovery Lab** June 2015 - December 2015
*Intern*

**Dundee Crown High School** August 2014 - May 2015
*AVID Tutor*

## AWARDS

First place at a Microsoft coding contest at OSU September 20, 2017
Humane Technologies Fellow August 2017 - May 2018
National Buckeye Scholarship August 2015 - May 2019
Provost Scholarship August 2015 - May 2019

## PUBLICATIONS

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, Skylar 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., Wurster, W. S., Peterka, T.. "Reinforcement Learning for Load- balanced Parallel Particle Tracing". *IEEE Transactions on Visualization and Computer Graphics*. 2022.

Bruggeman, K. and Wurster, S. W. 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, Skylar 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.