Jinzhen Wang

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I'm a senior Ph.D. candidate in Computer Engineering, focusing on data compression and HPC data management. I'm a motivated and result-driven individual that can work effectively under limited supervision. I have experience working in a collaborative environment and am responsible for leading and managing research projects. I'm also proficient in writing and presentation at all levels.

RESEARCH INTEREST

Data Compression, Scientific Data Management, Machine Learning, Scientific Visualization

WORK EXPERIENCE

Graduate research intern   **Jan 2023 — present**
Los Alamos National Laboratory   *Los Alamos, New Mexico, US*

Graduate research intern   **Sep 2022 — Dec 2022**
Los Alamos National Laboratory   *Los Alamos, New Mexico, US*

Summer research intern   **May 2022 — Aug 2022**
Los Alamos National Laboratory   *Los Alamos, New Mexico, US*

TEACHING EXPERIENCE

[NJIT][Instructor] ECE-394: Digital Systems Laboratory   **Spring 2019**

[NJIT][Instructor] ECE-394: Digital Systems Laboratory   **Fall 2018**

EDUCATION

Ph.D. in Computer Engineering, *New Jersey Institute of Technology, NJ, US*   Jan 2018 - May 2023

M.S. in Electrical Engineering, *New Jersey Institute of Technology, NJ, US*   Sep 2015 - May 2017

B.S. in Internet of Things (Electrical Engineering), *Shandong University, China*   Sep 2011 - May 2015

PUBLICATIONS

- **Jinzhen Wang**, Xin Liang, Ben Whitney, Jieyang Chen, Qian Gong, Xubin He, Lipeng Wan, Scott Klasky, Norbert Podhorszki, Qing Liu, *Improving Progressive Retrieval for HPC Scientific Data using Deep Neural Network*, 2023 IEEE 39th International Conference on Data Engineering (ICDE), 2023.

- **Jinzhen Wang**, Qi Chen, Tong Liu, Qing Liu, Xubin He, *zPerf: A Statistical Gray-box Approach to Performance Modeling and Extrapolation for Scientific Lossy Compression*, IEEE Transactions on Computers, 2023.

- **Jinzhen Wang**, Pascal Grosset, Terece L Turton, James Ahrens, *Analyzing the Impact of Lossy Data Reduction on Volume Rendering of Cosmology Data*, 2022 IEEE/ACM 8th International Workshop on Data Analysis and Reduction for Big Scientific Data (DRBSD-8), 2022.

- Nan Wang, Tong Liu, **Jinzhen Wang**, Qing Liu, Shakeel Alibhai, Xubin He, *Locality-based transfer learning on compression autoencoder for efficient scientific data lossy compression*, Journal of Network and Computer Applications, 2022.

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- Xinying Wang, Lipeng Wan, Jieyang Chen, Qian Gong, Ben Whitney, **Jinzhen Wang**, Ana Gainaru, Qing Liu, Norbert Podhorszki, Dongfang Zhao, Feng Yan, Scott Klasky, *Unbalanced Parallel I/O: An Often-Neglected Side Effect of Lossy Scientific Data Compression*, 2021 7th International Workshop on Data Analysis and Reduction for Big Scientific Data (DRBSD-7), 2021.

- Tong Liu, Shakeel Alibhai, **Jinzhen Wang**, Qing Liu, Xubin He, *Reducing the Training Overhead of the HPC Compression Autoencoder via Dataset Proportioning*, 2021 IEEE International Conference on Networking, Architecture and Storage (NAS), 2021.

- Tong Liu, **Jinzhen Wang**, Qing Liu, Shakeel Alibhai, Tao Lu, Xubin He, *High-ratio lossy compression: Exploring the autoencoder to compress scientific data*, IEEE Transactions on Big Data, 2021.

- Zhenlu Qin, **Jinzhen Wang**, Qing Liu, Jieyang Chen, Dave Pugmire, Norbert Podhorszki, Scott Klasky, *Estimating Lossy Compressibility of Scientific Data Using Deep Neural Networks*, IEEE Letters of the Computer Society, 2020.

- **Jinzhen Wang**, Tong Liu, Qing Liu, Xubin He, Huizhang Luo, Weiming He, *Compression ratio modeling and estimation across error bounds for lossy compression*, IEEE Transactions on Parallel and Distributed Systems, 2019.

- Tong Liu, Shakeel Alibhai, **Jinzhen Wang**, Qing Liu, Xubin He, Chentao Wu, *Exploring Transfer Learning to Reduce Training Overhead of HPC Data in Machine Learning*, 2019 IEEE International Conference on Networking, Architecture and Storage (NAS), 2019.

- Huizhang Luo, Dan Huang, Qing Liu, Zhenbo Qiao, Hong Jiang, Jing Bi, Haitao Yuan, Mengchu Zhou, **Jinzhen Wang**, Zhenlu Qin, *Identifying Latent Reduced Models to Precondition Lossy Compression*, 2019 IEEE International Parallel and Distributed Processing Symposium (IPDPS), 2019.

- Zhenbo Qiao, Tao Lu, Huizhang Luo, Qing Liu, Scott Klasky, Norbert Podhorszki, **Jinzhen Wang**, *SIRIUS: Enabling Progressive Data Exploration for Extreme-Scale Scientific Data*, IEEE Transactions on Multi-Scale Computing Systems, 2018.

- Huizhang Luo, Qing Liu, Zhenbo Qiao, **Jinzhen Wang**, Mengxiao Wang, Hong Jiang, *DuoModel: Leveraging Reduced Model for Data Reduction and Re-Computation on HPC Storage*, IEEE Letters of the Computer Society, 2018.

PROFESSIONAL ACTIVITIES

Reviewer for:

- IEEE International Conference on Data Engineering (ICDE)   2022
- IEEE Internet of Things Journal   2022
- IEEE Transactions on Smart Grid   2020