DAVID KRASOWSKA

+1 (843) 283-7758
krasow@u.northwestern.edu
ACM Student Number: 9159735
linkedin.com/in/davidkrasowska
krasow.github.io

SUMMARY

I am a Ph.D. student at Northwestern University, advised by Dr. Peter Dinda. I am also a visiting student at Argonne National Laboratory under Dr. Julie Bessac and Dr. Franck Cappello. My research journey began with his mentor at Clemson University, Dr. Jon C. Calhoun. Under my mentor, I collaborated with Argonne to explore lossy compression for optimizations in HPC scientific applications. This research has led to publications and was awarded best ACM student poster for undergraduates at SC '22. At Northwestern, I am exploring processing near memory utilization for datacenters to create a data-centric design.

EXPERIERENCE

Research Aide, Argonne National Laboratory *June 2022 – Current*

- Continuation of work during time as undergraduate student researcher at Clemson.
- Expansion to 3D datasets and sensitivity data analysis on our generated machine model.
- Best ACM SRC Poster at Super Computing (SC) ’22 for undergraduates.
- Contributed to Libpressio, an Argonne library for compression.
- Preparing paper for SC ’23.

High Performance Computing Creative Inquiry, Clemson University *June 2021 – December 2022*

- Participant in the Student Cluster Competition (SCC) at SC ’21.
- Participant in the Indy SCC at SC ’22 and won best poster.
- Collaboration with Dell and Intel to build a cluster optimized for greatest performance per watt.
- Set up schedulers (OpenPBS), package managers (Spack), applications (Quantum Espresso), and benchmarks (HPCG). Also gained knowledge of parallel computing with MPI.

Undergraduate Student Researcher, Clemson University *May 2021 – May 2022*

- Lossy compression research with Argonne National Laboratory and Clemson University FTHPC using the Palmetto Cluster.
- Analyzing statistical correlations within 2D datasets in comparison to compression performance.
- Presented during Super Computing ’21 at the 7th International Workshop on Data Analysis and Reduction for Big Scientific Data workshop with a publication.

Undergraduate Student Researcher, Clemson University *January 2022 – May 2022*

- Region of interest compressibility research in collaboration with Los Alamos National Laboratory and Clemson University FTHPC using the Palmetto Cluster.
- Determining methods to achieve the highest compressibility for images from a Laser Powder Bed Fusion (LPBF) EOS X printer in the SIGMA division within LANL.

PEER-REVIEWED PUBLICATIONS

Exploring Lossy Compressibility through Statistical Correlations of Scientific Datasets

David Krasowska, Julie Bessac, Robert Underwood, Sheng Di, Jon Calhoun, and Franck Cappello. 7th International Workshop on Data Analysis and Reduction for Big Scientific Data in conjunction with SC '21: The International Conference for High Performance Computing, Networking, Storage and Analysis, 2021. https://arxiv.org/abs/2111.13789

EDUCATION

Northwestern University, Evanston, IL
Ph.D. Student in Computer Science, 2023 - Current

Clemson University, Clemson, SC
B.S. in Computer Engineering, GPA 3.7/4.0, 2019 - 2022

TECHNICAL SKILLS

Top Languages:	C, C++, Python
Other Languages:	VHDL, x86 Assembly, CUDA, R, HTML, CSS, JavsScript
Tools:	MPI, Spack, Django, Unix, Git, Microsoft Office