

DAVID KRASOWSKA

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SUMMARY

Undergraduate senior in Computer Engineering at Clemson University. I have experience in high performance computing (HPC) research with Argonne National Laboratory, Los Alamos National Laboratory, and Clemson University. Also, I have embedded computing experience through course work and side projects. At the current moment, I am focused on HPC optimization through compression performance. I have interests in the optimization of memory transfers between the CPU, RAM, and GPU.

EXPERIENCE

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

- 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.

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

- Participant in the Student Cluster Competition at Super Computing '21.
- 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, Argonne National Laboratory *May 2021 – Current*

- Lossy compression research with Argonne National Laboratory and Clemson University FTHPC using the Palmetto Cluster.
- Analyzing statistical correlations within 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. Currently submitting a paper to SC '22.
- Contributed to Libpressio, an Argonne library for compression.

Django TRACE Camp Student, Clemson University *June 2020*

- Developed multiple projects using Django with specific tasks were assigned on a weekly basis in order to strengthen teamwork and web-development skills.
- Implementing an API, creating a chat system, and creating a portfolio were a few of the projects.

FIRST Robotics Student, Academy for the Arts, Science, and Technology *September 2015 - June 2019*

- Created and wired assemblies (using motor controllers and a roboRIO) for robot designed in Solidworks.
- Learned robust team building skills and competed throughout the United States.

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

Clemson University, Clemson, SC

B.S. in Computer Engineering and Minor in Mathematical Science, GPA 3.6/4.0, expected December 2022

Horry-Georgetown Technical College, Myrtle Beach, SC

Non-Degree, GPA 3.8/4.0, 2017-2019

TECHNICAL SKILLS

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