

Bo Zhang

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EDUCATION

- Rutgers, The State University of New Jersey, Rutgers Discovery Informatics Institute** *New Brunswick, NJ*
PhD, Computer Sciences, Advised by **Manish Parashar**, GPA: 3.94/4.00 *Sep 2018 - Present*
- Beijing University of Posts and Telecommunications, School of Information and Communication** *Beijing, China*
B.E, Telecommunication Engineering, Advised by **Hongyan Cui**, GPA: 85.28/100 *Sep 2014 - Jun 2018*
- Three times University Fellowship Recipient

RESEARCH EXPERIENCE

Performance Portable Programming Framework for Coupling Scientific Workflow *New Brunswick, NJ*
(This work will land in C++ 23)

Rutgers Discovery Informatics Institute (Co-op with Sandia National Lab) | Graduate Researcher *May 2020 – Present*

- Integrated Resilient Dataspaces into Kokkos ecosystem.
- Compared the performance of staging-based coupling with HDF5 and CPP IO.
- Enabled loose coupling for scientific applications for Kokkos.
- Extended PGAS programming model to workflow level.
- Designed the architecture of data staging system to enable one-side data redistribution between applications.
- Added PGAS-style distributed memory support for Kokkos.

Data Compression and I/O Reduction for In-Situ Workflow in Scientific Computing *New Brunswick, NJ*
Rutgers Discovery Informatics Institute | Graduate Researcher *Mar 2019 – Aug 2020*

- Investigated the use cases for several current popular scientific compression algorithms.
- Proposed three in-situ compression paradigms to reduce data staging IO bottleneck.
- Integrated ZFP into Dataspaces library.
- Evaluated the performance of compression- integrated IO for coupled workflow.

Big Data Security Control based on Block Chain *Beijing, China*
State Key Laboratory of Networking and Switching Technology | Undergraduate Researcher *Sep 2017 - Jun 2018*

- Analyzed the demand for integrating data transfer with blockchain network.
- Created a three-layer network model for tracing data transfer based on blockchain network.
- Designed the structure of transaction record.
- Traced data transfer flow based on Hyperledger Platform.

SKILLS

Programming Languages: Bash, C/C++, MPI, Python

Libraries: HDF5, VTK, ZFP, ADIOS, OpenSHMEM

DevOp: Slurm, lmod

HPC Platform: Caliburn, Amarel at Rutgers Univerisity, Frontera at TACC

Languages: English, Chinese

PUBLICATION

- Cui H., **Zhang B.**, Chen Y., Yu T., Xia Z., Liu Y. (2019) SDN-Based Optimization Model of Virtual Machine Live Migration Over Layer 2 Networks. In: Bhatia S., Tiwari S., Mishra K., Trivedi M. (eds) Advances in Computer Communication and Computational Sciences. Advances in Intelligent Systems and Computing, vol 760. Springer, Singapore

LEADERSHIP AND TEAMWORK

Rutgers, The State University of New Jersey, Department of Computer Science *New Brunswick, NJ*
Teaching Assistant *Sep 2018 – May 2020*

- Supervised Computer Architecture to class of 40 undergraduate students in weekly recitation class.
- Prepared course material including lectures, exams and practice problems.