Benjamin Michalowicz

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EDUCATION

STONY BROOK UNIVERSITY
B.S, COMPUTER SCIENCE
May 2020 | Stony Brook, NY

M.S, COMPUTER SCIENCE
May 2021 | Stony Brook, NY

Advisor: Dr. Barbara Chapman

THE OHIO STATE UNIVERSITY
PH.D, COMPUTER SCIENCE & ENGINEERING
Aug 2021-Present

Advisor: Dr. Dhabaleswar K. Panda

GRAD COURSEWORK

STONY BROOK
Data Science Fundamentals
Principles of Programming Languages
System Security
Quantum Computing/Applications
Computer Networks
Analysis of Algorithms
Computational Geometry

OSU
Introduction to HPC/Deep Learning
Advanced Operating Systems
Complexity and Computability
Algorithms
Intro to Network-Based Computing
Intro to Parallel Programming
Advanced Computer Architecture
Compiler Design and Impl.

SKILLS

PROGRAMMING
C • Java • Python • Shell Scripting
•Qiskit • Fortran • C++
• SQL • LaTeX
• MIPS Assembly

OPERATING SYSTEMS
Windows • *-nix • OS X

TECHNOLOGIES
MPI • OpenMP • SciKit-Learn • Git •
Git • TAU • LLVM, Cray, GNU
Compilers

SELECTED WORK EXPERIENCE

THE OHIO STATE UNIVERSITY | RESEARCH ASSISTANT
May 2021-Present | Columbus, Ohio
- HPC research in Dr. Panda's Networking-Based Computing Laboratory. I specialize in exploring solutions to more efficiently use SmartNICs in parallel programming models like MPI and SHMEM.

LOS ALAMOS NATIONAL LABORATORY | STUDENT RESEARCHER
May 2023-August 2023 | Los Alamos, NM/Remote

- Applied knowledge of HPC research and of the BlueField SmartNICs to areas such as security, encryption, and computational offload.

STONY BROOK UNIVERSITY | RESEARCH ASSISTANT
August 2020- May 2021 | Stony Brook, New York
- HPC research in Dr. Barbara Chapman's Exasca||ab, focusing on testing and benchmarking HPC clusters and architecture. Researching the A64FX Processor.

STONY BROOK UNIVERSITY | UNDERGRADUATE RESEARCH ASSISTANT
May 2018 - May 2019, Dec 2019-Feb 2020 | Stony Brook, New York
- Worked with PhD students in the COMPAS lab on projects focusing on microarchitecture and cloud infrastructure.

SELECTED HONORS/AWARDS

INTERNATIONAL SYMPOSIUM ON COMPUTER ARCHITECTURE
Phoenix, AZ, 2019
- ISCA uArch Workshop attendee on awarded scholarship

SUPERCOMPUTING 2021
Remote/St. Louis, MO, 2021
- Student Volunteer Recognition for my services as a Virtual Student Volunteer for Supercomputing'21

SELECT PUBLICATIONS

CONFERENCES AND WORKSHOPS

[1] B. Michalowicz, K. Suresh, H. Subramoni, D. Panda and S. Poole.
'DPU-Bench: A Micro-Benchmark Suite to Measure Offload Efficiency Of SmartNICs'.
In: Practice and Experience in Advanced Research Computing 2023 (PEARC'23). Portland, Oregon, July 2023.

[2] B. Michalowicz, K. Suresh, B. Ramesh, A. Shafi, H. Subramoni, M. Abduljabbar and DK Panda.
'In-Depth Evaluation of a Lower-Level Direct-Verbs API on InfiniBand-based Clusters: Early Experiences'.
In: The 25th Workshop on Advances in Parallel and Distributed Computational Models (Held in Conjunction With the IPDPS '23).
St. Petersburg, Florida, USA, May 2023.

[3] K. Suresh, B. Michalowicz, B. Ramesh, N. Contini, J. Yao, S. Xu, A. Shafi and D. Panda.
'A Novel Framework for Efficient Offloading of Communication Operations to Bluefield SmartNICs'.
In: The 37th IEEE International Parallel & Distributed Processing Symposium (IPDPS '23).
St. Petersburg, Florida, USA, May 2023.