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

THE 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, focusing on further research and development of MVAPICH2 along with research into other HPC areas, such as HPC architecture and Deep Learning.

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 PROJECTS

THE MVAPICH PROJECT | MPI Library by Network-Based Computing Lab

May 2021 - Present

- Research in HPC through MPI and the MVAPICH library produced by the Network-Based Computing Laboratory @ The Ohio State University

OOKAMI/A64FX RESEARCH High-Performance Computing

August 2020-May 2021

- Research and analysis of the Ookami Cluster at Stony Brook; analyzed OpenMP behavior across several compiler toolchains and applications on Ookami and the Fugaku supercomputer.

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 SC'21

SELECT PUBLICATIONS

CONFERENCES AND WORKSHOPS

[1] K. Suresh, A. Paniraja Guptha, B. Michalowicz, B. Ramesh, M. Abduljabbar, A. Shafi and DK Panda.
'Efficient Personalized and Non-Personalized Alltoall Communication for Modern Multi-HCA GPU-Based Clusters'.
In: 29th IEEE International Conference on High Performance Computing, Data, and Analytics (Dec. 2022).

[2] A. Tran, B. Michalowicz, B. Ramesh, H. Subramoni, A. Shafi and DK Panda.
'Designing Hierarchical Multi-HCA Aware Allgather in MPI'.
In: Fifteenth International Workshop on Parallel Programming Models and Systems Software for High-End Computing (P2S2), In Conjunction With ICPP 2022: The 51st International Conference on Parallel Processing (Aug. 2022).

[3] B. Michalowicz, E. Raut, Y. Kang, A. Curtis, D. Oryspayev and B. Chapman.
'Comparing OpenMP Implementations with Applications across A64FX Processor Platforms'.
In: 17th International Workshop on OpenMP (October, 2021).