Benjamin Michalowicz

http://btmichalowicz.github.io | https://github.com/BTMichalowicz | (201) 961-2280
benjaminmichalowicz98@gmail.com | https://www.linkedin.com/in/benmichalowicz/

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

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.

PROJECTS

MPI: 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.

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).