

Zachary Marcus

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Available for computer engineering internship positions for January - June 2018

EDUCATION

Northeastern University

Boston, MA

Candidate for Bachelor of Science in Computer Engineering and Computer Science

GPA: 3.84 | Graduation Date: May 2019

Honors: Dean's List, National Merit Scholar

Relevant Coursework: High Performance Computing, Object Oriented Design, Networks and Distributed Systems, Algorithms and Data, Embedded Design, Digital Logic

WORK EXPERIENCE

MIT Lincoln Laboratory

Lexington, MA

Software Engineering Co-op

January 2017 - September 2017

- Maintain DoD secret clearance
- Designed C++ library to facilitate radar subsystem integration
- Wrote and evaluated large scale parallel applications
- Analyzed performance bottlenecks and optimized real-time signal processing
- Developed mission-critical software in C++ for use in signal processing
- Leveraged TensorFlow and image processing libraries to place 2nd in fake news detection hackathon

Advanced Micro Devices (AMD)

Boxborough, MA

Software Engineering Co-op

January 2016 - August 2016

- Designed Python tool to streamline driver performance analysis
- Communicated with hardware engineers to determine performance metrics for applications
- Developed scripts to test modifications to shader compiler
- Wrote and modified test cases to match new language specifications
- Determined sources of bugs in shader compiler

RESEARCH EXPERIENCE

International Supercomputing Competitions

Boston, MA

Northeastern University Competitor

July 2015 - Present

- Broke the competition record for Linpack at ISC 2017 in Frankfurt, Germany
- Gain valuable experience in high performance hardware and optimize configurations for applications (e.g. the LAMMPS Molecular Dynamics Simulator) on experimental systems
- Make critical decisions about hardware and software stacks to use
- Analyze application-specific performance characteristics to make source code modifications

Computer Architecture Research Lab

Boston, MA

Undergraduate Research Assistant

May 2015 - May 2016

- Developed Android application and executables for side channel analysis of mobile device chipsets
- Presented findings at Research, Innovation, and Scholarship Expo at Northeastern
- Expanded Android application for simplified GPU benchmarking, porting a benchmark suite designed for heterogeneous computing architectures

SKILLS AND ACTIVITIES

Proficient Languages: C++, C, Python, Java

Familiar Languages: MIPS Assembly, SystemVerilog, JavaScript, HTML, CSS, XML

Major Related: Planetary Lander, NEU Hardware Hackathon (1st),
MakeBU Hackathon (1st), Pavlok Hardware Hackathon (2nd)

Volunteering: Husky Ambassadors, Hostelling International, Generation Citizen