

Ethan Ferguson

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www.eferg.us

EXPERIENCE

Grammatech Inc, Ithaca — *Software Intern*

June 2021- August 2021

Worked with Grammatech's research team to add functionality to CodeSentry product and fix bugs, including graph-based dependency analysis for vulnerability detection, data collection and cleaning.

Sonnet Software, Syracuse — *Software Intern*

June 2019 - August 2019, December 2019 - January 2020, May 2020 - August 2020

Internship, debugged and added to legacy MATLAB interface for the Sonnet software suite. Worked in developing a MacOS version of the software. Provided MATLAB support. Analyzed x86 assembly and studied compilation to optimize software.

Binghamton University, Binghamton — *Research Assistant*

February 2020 - Present

Worked with Prof. Kenneth Chiu on Machine Learning Molecules project with TotalEnergies, created HPC code for data generation and developed machine learning models. Published in NeurIPS 2021.

Worked with Prof. Hoda Naghibijouybari researching side-channel vulnerabilities in the WebGPU API on integrated Intel GPUs.

EDUCATION

Binghamton University, SUNY | Watson College of Engineering and Applied Science

August 2019 - Present, Cumulative GPA 3.98

Majoring in Computer Science, enrolled as a member of the Binghamton University Honors Program. Expected graduation in December 2022.

Fayetteville-Manlius High School

September 2015 - June 2019

High Honors student (GPA 95+). Completed math through AP Calculus, science through AP Physics C. Captain of Varsity Science Olympiad team - State Champions 2 years. Member of National Honors Society, Science Honors Society, French Honors Society.

PROJECTS, LEADERSHIP

ParticleGrid — *Developer*

Developed high-performance code for generating voxel data on molecule datasets, for use in machine learning to synthesize new molecules. Presented in APS March Conference 2022. Published paper in IEEE eScience 2022.

Boy Scouts — *Eagle Scout*

Boy scout since 5th grade. Completed National Youth Leadership Training and received the NOA Camping Gold Award. Served as Patrol Leader and Scribe for troop. Participated in many hours of volunteering through the organization.

SKILLS

Languages: C, C++, Python, Rust, JavaScript, Java, MATLAB, Go, x86-64 Assembly

Operating Systems: Linux, macOS, Windows 7 - 11

Embedded Systems: Arduino, Raspberry Pi, soldering, system building/repair

Development and Creative Skills: Vi, Emacs, apache, Web Design, HTML/CSS, Networking (see website - missingchip.com), 2D and Digital design

AWARDS

National Merit Scholar
Finalist

Scholastic Gold Key for the piece *Distance*.

Bausch and Lomb Honorary
Science Award

FOREIGN LANGUAGES

Completed Advanced Placement French. First language English.