Ethan Madison

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Skills & Interests

Software	C++, Java, Python, Android, React, Javascript, Go
Intersts	Algorithms, Security, Privacy, Automation
Tools	Linux, Git, Vim, LaTeX
Languages	English, Spanish, Farsi
Hobbies	Fencing, Drumming, Programming

Education

2015–2019
3.6 GPA
Bachelor of Science, Computer Science
University of Michigan—College of Literature, Science, and Arts, Ann Arbor, MI

2009–2015
4.1 GPA
High School
Harvard-Westlake School, Los Angeles, CA

Experience

2017–Now
Hills H3 Fencing Institute
Assistant Epee Coach
- Coach junior fencers for Long Island-based non-profit fencing program, and compete representing H3 in national tournaments.
- Allows me to travel and explore the country while pursuing a passion.

2018–2019
University of Michigan Biological Chemistry: Trievel Lab
Undergraduate Researcher
- Studying biochemistry and structural characteristics of bacterial lysine methyltransferases which are important to virality of infectious bacteria via cloning, expression, purification, and protein crystalization.
- Working to find an inhibitor/cure for anthrax (*B. anthracis*), Legionnaire's disease (*L. pneumophila*), and other mechanistically similar bacterial infections.
- Successfully cloned BaSET and RomA genes, expressed and purified the relevant proteins. Currently performing novel methyltransferases research.
- Trained new undergraduate researchers on how to perform lab procedures.

2015–2019
University of Michigan Club Fencing
Co-President, Captain, Competitor & Webmaster
- Replaced and repaired old fencing equipment with safer, cleaner weapons and whites to increase beginner retention, as well as doubled our scoring equipment from three sets to six sets to allow more fencing in practice.

- Liasion between the club and Club Sports department in ensuring compliance, organizing events, etc. Primary contact for Midwest Fencing Conference & instigating conference ranking system reform using predictive algorithms.
- Promoted and helped kickstart the Mentorship Program connecting current students with alumni in fields relevant to the students' interests to increase alumni participation with the club and help our members achieve life goals.
- Elected by club members to the co-presidency at end of my second year, and then re-elected as co-president becoming the first two-term president.
- As president, led the team on consecutive historical years; raising over $30,000, starting an endowment fund, and winning the team's seventh national title.
- Teach fencing to beginners and develop experienced fencers by running practices, giving private lessons, and facilitating analysis of fencing situations.
- Twice captained three-man squad to top-three in Midwest, over D-I varsity teams.
- Competed with and coached men's and women's epee squads to win three team national championships and individual national champion runner-up (three times).
- As Webmaster, I re-wrote the website using modern templating techniques, regularly update the site, and now training the future webmasters with documentation.
- Formerly served as Secretary & Travel Coordinator (2016–2017 season).

2017 **Cedars-Sinai Medical Center**
Volunteer, Pre-Healthcare Program
- Shadowed a plastic surgeon in operating room and rounds with patients.
- Observed cutting-edge surgeries, including conventional and DIEP-flap breast reconstructions, degloving reconstructive surgery, and transgender genital surgery.
- Learned about techniques of reconstructive surgery, benefits of certain surgical methods over others, and explained what I learned before a group of peers weekly.

More experience & projects: ethanmad.com/projects

Papers

2018 "*In oder Aus*: Modern Improvements Upon and Applications of the Bloom Filter"
Ethan Madison and Zachary Zipper
arXiv:1902.07353 [**cs.DS**]

Selected Coursework

A+	*Election Cybersecurity* with Dr. J. Alex Halderman
A	*Mobile App Development for Entrepreneurs* with Dr. Eliott Soloway
B+	*Introduction to Algorithms* with Dr. Seth Pettie
A-	*Introduction to Computer Security* with Dr. Peter Honeyman
B	*Introduction to Operating Systems* with Dr. Boris Kasiscki