

# ZACH HELLER

Email: zach@zacheller.dev || LinkedIn: zachellerdev || Website: <https://zacheller.dev/whoami>

## SYNOPSIS

Recent Master's graduate in Computer Science looking for security engineering, consultant, analyst, and pentesting roles. Open to relocation, remote work, and travel. Eligible for security clearance and work in the States.

## EDUCATION

**Washington University in St. Louis (WUSTL), School of Engineering**

**Expected: May 2020**

- B.S./M.S. in Computer Science (2018/2020); 3.61/4.00 GPA; Dean's List
- Study Abroad at the University of Queensland in Spring 2017, Distinction in Human-Computer Interaction

## SKILLS

- Programming (C, Java, Python, Bash), Full Stack Development, Shell Tools, Vim, Data Wrangling, Technical Writing
- Pentesting (Kali Linux, Burp Suite, ZAP, Nessus, nmap, AutoRecon, Metasploit, hydra, SQLMap, Evil-WinRM, etc)
- Malware Analysis and general RE (IDA, r2, gdb-peda), Traffic analysis (Wireshark), Hash cracking (hashcat, john)
- Cloud and Remote Administration Experience (AWS, OCI), Wordpress, Splunk Certified User 6.X

## CYBERSECURITY EXPERIENCE

**[Work] Head of Cyber Security Curriculum Development at The Coding School**

**Summer 2019–Present**

- Design curriculum and develop challenges for 1 on 1 tutoring for Middle and High school students to go from zero to capable of playing in Capture the Flag (CTF) security competitions, starting with Linux concepts and *Bash* scripting in a VM and covering common CTF topics (Steganography, Cryptography, Web Vulnerabilities, Binary Exploitation, Reverse Engineering) with hands-on lessons

**[Research] Almiraj: A Method for Fuzzing Embedded Systems Leveraging the Unicorn Engine & AFL Spring 2019**

- Developed portable method for fuzzing embedded system binaries by leveraging architecture emulation through Unicorn Engine to bypass hardware limitations of previously explored fuzzers. Integrated components to allow Unicorn to read/write to memory mapped IO through JTAG and allow for replaying of crashing inputs on target device

**[Home Lab] Penetration Testing & Security Competitions**

**2019–Present**

- Run virtualized lab on internal network for rooting Vulnhub boxes; complete HackTheBox and TryHackMe challenges; analyze Malware Traffic PCAPs
- Solo Competitor CTF High Placements
  - 1st place at VMWare Carbon Black CTF (02/20)
  - 2nd place at Trend Micro CTF @Blackhat (08/20)
  - 1st place at Niflheim's Network CTF @Grayhat (10/20)
  - 1st place (tied) at SECARMY Village CTF @Grayhat (10/20)
  - 1st place at Dyrwolf Inc's Cyber Weapon Range (10/20)
  - 1st place at Secure Coding Tournament @LocoMocoSec (11/20)

**[Blog] Creator and Webmaster of Cybersecurity Blog (<https://zacheller.dev/posts>)**

**2019–Present**

- Maintain a cybersecurity-focused Jekyll blog using Github Pages that contains over 120 blog posts covering solutions to CTF and pentesting challenges, research, and notes from meetups, workshops, webinars, and conferences

**[Wiki] Creator and Webmaster of SecWiki (<https://wiki.zacheller.dev/>)**

**2019–Present**

- Run a wiki using GitBook containing over 200 pages on security topics like Network and Web App Pentesting, Digital Forensics, Exploit Dev/Analysis, Network Security, Hardware, Linux, and notes from relevant courses

**[Incident Response] Webmaster on Exec Board for WUSTL Habitat for Humanity Chapter**

**2014–2017**

- Determined source of hack (CVE-2014-9033), restored site, presented post-mortem and remediations to club

## RELEVANT COMMUNITY EXPERIENCE

**Member of ARESx CTF Team**

**Present**

- Ranked #21 in U.S. on CTFTIME.org (10/20)

**Founding Member of b34r\$hell, WUSTL's competitive hacking (CTF) team**

**2019–Present**

- 1<sup>st</sup> place at STLCyberCon CTF, 3<sup>rd</sup> place at STL Converge Tour CTF (Nov. 2019)

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**Co-CTF Writer** of STL OWASP QUARANTINE CTF **Spring 2020**

**Member** and **Presenter** at St. Louis 2600 + DC314 **2019–Present**

**Member** of STLCYBER, STL OWASP, Cloud Security Alliance, STLSec **2018–Present**

**Security Conference Participant** **2019–Present**

- DEFCON, Blackhat, Grayhat, RSAC, BSidesSF, InfoSec OASIS, vIITSEC, BSidesSTL, STLCyberCon, St. Louis Cybersecurity Converge Tour

## TEACHING EXPERIENCE

**Cybersecurity Tutor at CodeConnects (Remote)** **2019–Present**

- Tutor 1 on 1 over video chat covering Python, Linux, CTF topics, and pentesting

**Tech Leadership Fellow and Mentor at LaunchCode (St. Louis, MO)** **2019–Present**

- Teach MEAN stack and Java Spring Boot web development in a project-based course to cohort of adults of diverse backgrounds, ages, and abilities to prepare them for roles in the STL-area technology job market
- Act as a Project Manager and Mentor for student developer teams, covering topics like project ideation and planning, wireframing and UI/UX, development cycles and Git workflow, and live coding and technical interviews

**Instructor at CodeREV (Mountain View, CA)** **Summer 2017**

- Taught coding basics to groups of 3<sup>rd</sup> graders at a summer camp through guided simple game development assignments in Scratch and JavaScript

**Teaching Assistant at Washington University in St. Louis** **2016–2017**

for (CSE 503S: Rapid Prototype Development && CSE 438S: Mobile Application Development)

- Held office hours, graded labs and studios, helped write exams. Content incl. HTML, CSS, Git, Bash, AWS, LAMP, OWASP, Python, RegEx, JavaScript, AJAX, JSON, Node.JS, Socket.IO, React, Angular JS, and Swift

## ADDITIONAL RELEVANT EXPERIENCE

**Developer Intern at Equifax Workforce Solutions (St. Louis, MO)** **Summer 2018**

- Identified and reported two separate ways to get root access outside of protocol
- Designed API to integrate webservices and replace manual update system (C#, .NET); Implemented web app to check service health, databases, dependencies, and versioning to aid work with offshore teams; Built Excel interface in VBA for finance team to harvest and reassign software license, saving \$170,000/year
- Co-started intern scrum team to develop Buddy System web app and organized Corporate Social Responsibility event

## EXTRACURRICULAR EXPERIENCE

**President** of Okinawan Karate-do Club, **Assistant Instructor** of WUSTL Okinawan Karate-do P.E. Class **2015–2019**

- Recruited and helped train over 20 members, led extra practices for advanced students on weekends, and transitioned club into an official P.E. class

**Pixel Artist** for multiple indie games and assorted commissions **2017–2018**

- Lead art designer (and co-lead developer) for Kat Attak (<https://katattak.itch.io/kat-attak>)

**Tango Dancer** for ALAS Carnaval Performance **2016–2017**

- Worked with dance partner on eight-person team to learn tango choreography and perform in a student-run Latin cultural production at Edison Theatre

**President** and **Co-founder** of Delta Beta Om **2015–2018**

- Started and ran unofficial co-ed fraternity to support healthy (school)work/life balance
- Hosted and promoted open social and mindfulness-focused events