

Jay Hayward

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Cybersecurity Engineer

Languages - C, C++, Python, Bash, Git, Linux/Unix CLI, Powershell, Go

Tools - Nmap, Wireshark, Metasploit, Windows Active Directory, Hashcat, Ghidra, YARA

Professional Experience

Opentext | Webroot – Threat Research Analyst (February 22, 2021 - present)

- Analyzing potentially malicious scripts picked up by Webroot antivirus in the form of Powershell, Javascript, Visual Basic, and Batch scripts.
- Conduct analysis, de-obfuscation, and reverse engineering on malicious samples to determine their function and evasion techniques.
- Writing signatures and YARA rules to strengthen Webroot's detection of malware and malicious scripts.
- Writing Powershell scripts for automation across industry-standard Windows systems.
- Utilizing Linux and Windows virtual machines to develop and execute my own malware to test Webroot antivirus detections and reports on certain edge cases.
- Working with my own and other teams to update and publish live patches to Webroot antivirus in a timely fashion.
- Keeping up to date with current prominent threats and maintaining Webroot standards in the modern-day threat landscape.

Staples – SOC Engineer Intern (June 29, 2020 - August 21, 2020)

- Conducting Purple Team exercises to test the functionality of our threat detection systems, including DNS tunneling, SMB remote command execution, and Man-in-the-Middle, among others.
 - Utilizing Windows Active Directory architecture and Powershell scripting to identify and exploit vulnerabilities in various systems including Windows servers and clients in our enterprise network.
 - Conducting penetration testing leveraging the MITRE ATT&CK Framework, focusing on Discovery, Lateral Movement, and Defense Evasion.
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Education

University of Colorado Boulder
Bachelor of Arts, Computer Science

Graduation Date: May 7, 2020
Major Specific GPA: 3.860

Academic Achievements

- Society of Telecom Fellowship (2020)
- National Technical Honor Society (2014)

Extracurricular Activities

- CU Cyber Club: Executive Board (January 2017 – May 2020)
- Collegiate Cyber Defense Team (September 2017 – March 2020)
- Science Bowl (2011-2014)

Major Specific Courses

- Advanced Penetration Testing
 - Digital Forensics
 - Linux System Administration
 - Cybersecurity for a Converged World
 - Algorithms
 - Operating Systems
 - Data Science
 - Software Development
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Events and Competitions

- **Collegiate Cyber Defense Competition** - Won 3rd place, Rocky Mountain Regional competition
 - **HackCU IV** - Developed an algorithm that tracks and recognizes varying heart rate patterns
 - **HackCU V** - Developed a program that introduces CS students to capture-the-flag challenges
 - **Facebook Hackathon 2018** - Won 2nd place for a system that reroutes traffic through a network
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Relevant Skills and Experience

- **Collegiate Cyber Defense Competition** - CU Blue Team Strategic Defense Coordinator
The Blue Team is responsible for keeping numerous web services running against a team of professional penetration testers. I would run constant monitoring and keep a detailed record of any breaches to our system. I was responsible for effectively communicating my reports to a non-technical administration.
- **CU Cybersecurity Club** - Social Media and Marketing Executive
I was responsible for maintaining a social presence for CU's Cybersecurity Club, which involves giving presentations and generating interest for cybersecurity among students. In the club environment I would help less technically oriented students develop useful skills in a friendly and accommodating setting.
- **Advanced Penetration Testing** – Developing an understanding of vulnerabilities and exploits
In weekly assignments I would be presented with one or more machines in a private network, where I used tools and scripting to identify and exploit various vulnerabilities to gain user and root access. I analyzed malicious scripts and used reverse-engineering to determine their purpose and function, as well as how to detect them in various forms and systems.