

# Sam Hanson

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## Education

University of Minnesota - Twin Cities  
Bachelors of Arts in Computer Science

May 2020

## Work Experience

Dragos

Jan 2020 - Present

*Vulnerability Analyst II*

- Discovered vulnerabilities in software products including: CVE-2021-22775, CVE-2021-31218, and CVE-2021-31219 and wrote Vulnerability Analysis reports to alert customers and mitigate risks. A few more vulnerabilities are in the process of responsible disclosure.
- Maintained industrial control system vulnerability database utilizing various data sources. Supplied actionable intelligence to engineers and ICS practitioners for vulnerability mitigation. Corrected any mistakes found in security advisories and conducted further research if needed.
- Presented at monthly E-ISAC cybersecurity webinars on vulnerabilities discovered in the past month that impact the electric industry.
- Biweekly training sessions in malware analysis and reverse engineering by Dragos' Principle Malware Analyst.
- Technologies and tools used include Python, C, IDA Pro (including IDAPython), Virus Total, procmon, Wireshark, and dnSpy.

Code42

Jan-Aug 2019

*Software Engineer Intern*

- Developed file monitoring app for 3rd-party applications (GDrive, OneDrive, Box, etc.) that security experts can use to monitor for suspicious activity.
- Found exceptions in our application and wrote secure fixes.
- Wrote unit tests to ensure correctness.
- Technologies used include C#, SQL, Microsoft Azure, Git

Undergraduate Research Fellow - U of MN

2017 - 2019

*Web Developer & Research Programmer*

- Develop web-based data visualization tools for high volume of environmental data.
- Researched and implemented machine learning algorithms to classify various land features.
- Google Cloud Platform, OpenLayers, PostGIS, Geoserver, Javascript, HTML, CSS, PHP, MATLAB, Python

Blueprint Solutions LLC

May-Sept 2018

*Software Implementation and Data Transfer Expert*

- Perform technical operations for specific client requests.
- Troubleshoot with hearing health care providers to identify and fix any errors or bugs in their system.

## Skills

Multiple Programming Languages

- Python, C, C#, C++, PHP, SQL, HTML, CSS, and Javascript

Multiple Cybersecurity-related Tools

- IDA Pro, Metasploit, Wireshark, VirtualBox, procmon, dnSpy

## Awards and Achievements

Conducting Cybersecurity Research

2019 - Present

- Researched vulnerabilities and exploits in JavaScript Engines (WebKit, V8, Chakra, etc.) using advanced fuzzing techniques.
- Completed CSCI5271: *Introduction to Computer Security*, INET4007: *Cloud Security*, CSCI5980: *Manual and Automated Binary Reverse Engineering*.

Won the 2018 Software Design Competition

October 2018

- Created a mobile and web application to increase citizen engagement in civic duty.
- Various technologies used including Google Cloud Platform, the Vue.js framework, Javascript, HTML, Sass, Python, PSQL.

Participated in the 2019 Minnehack (24hr competition)

Spring 2019

- Developed an online marketplace for farmers to streamline the buying and selling of crops.