

# Jason Ngo

Computer Science Major @ UBC

+1 587-890-5411 | work@jasonn.dev | github.com/Green-Avocado | www.jasonn.dev

## Skills Summary

<b>Application Security</b>	Buffer overflow, Format-string exploits, Return-oriented programming, Reverse engineering
<b>Web Security</b>	SQL injection, Cross-site scripting, Template injection, Local file inclusion, Prototype pollution
<b>Systems development</b>	Rust, x86 Assembly, C / C++, Java
<b>Web development</b>	NodeJS, REST APIs, NGINX, Google Firebase
<b>System administration</b>	Linux, Docker, SQL

## Work Experience

<b>2020/04 - Present</b>	<b>Freelance Software Development</b> <ul style="list-style-type: none"> <li>Wrote detailed technical documentation using LaTeX.</li> </ul>
--------------------------	---

## Technical Extracurriculars

<b>2019/09 - Present</b>	<b>CTF Competitions</b> <a href="https://blog.jasonn.dev/ctf">https://blog.jasonn.dev/ctf</a> <ul style="list-style-type: none"> <li>Reverse engineered binaries without symbols using Ghidra and Radare2.</li> <li>Performed dynamic analysis and debugged exploits using GDB.</li> <li>Identified vulnerabilities in binary applications and web services.</li> <li>Defeated common exploit mitigations such as position independent executables, address-space layout randomization, stack canaries, and relocation read-only.</li> <li>Created writeups to explain vulnerabilities and exploit techniques used in each challenge.</li> </ul>
<b>2017/09 - 2020/02</b>	<b>Vex Robotics Club</b> <i>Sir Winston Churchill High School, Calgary, AB</i> <ul style="list-style-type: none"> <li>Wrote firmware in C++ which used the Vex API to receive instructions from a controller.</li> <li>Used feedback from sensor data to guide autonomous routines and aid user control.</li> <li>Created a user interface for the controller display screen to configure the robot at runtime.</li> <li>Our team won a programming award and we were invited to compete in the international event.</li> </ul>

## Hackathon Projects

<b>2022/01</b>	<b>Language Exchange</b> <a href="https://github.com/Green-Avocado/Language-Exchange">https://github.com/Green-Avocado/Language-Exchange</a> <ul style="list-style-type: none"> <li>DESCRIPTION.</li> </ul>
<b>2021/11</b>	<b>Speak-able</b> <a href="https://devpost.com/software/speak-able-inclusive-unconferencing">https://devpost.com/software/speak-able-inclusive-unconferencing</a> <ul style="list-style-type: none"> <li>DESCRIPTION.</li> </ul>
<b>2020/08</b>	<b>Study Tinder</b> <a href="https://devpost.com/software/study-tinder">https://devpost.com/software/study-tinder</a> <ul style="list-style-type: none"> <li>DESCRIPTION.</li> </ul>
<b>2020/08</b>	<b>BikePath</b> <a href="https://devpost.com/software/bikepath-dkpstx">https://devpost.com/software/bikepath-dkpstx</a> <ul style="list-style-type: none"> <li>Developed a service to help users find alternative locations that would permit eco-friendly alternatives to driving, such as walking or biking.</li> </ul>

2020/08

### COVID Wait

<https://devpost.com/software/covid-wait>

- Created a website to help users avoid highly populated areas and reduce the risk of exposure to COVID-19.

## Cybersecurity Projects

---

2021/03 - Present

### pwndocker

<https://github.com/Green-Avocado/pwndocker>

- The program is frequently used by myself in CTF competitions to create an environment for testing and debugging exploits.

2022/02

### BBY Stealer Malware Analysis

<https://github.com/Green-Avocado/bbystealer-malware-analysis>

- Helped affected victims with incident response.

2021/10 - 2022/01

### UBC MapleCTF

<https://github.com/ubcctf/maple-ctf-ubc-2022>

- Wrote challenges in C with intentional vulnerabilities to progressively introduce and test binary exploitation techniques.
- Used Docker to containerize challenges.

2021/09 - 2021/12

### EasyROP

<https://github.com/Green-Avocado/EasyROP>

- Wrote a program in Java to automate writing scripts for binary exploitation.

## Personal Projects

---

2020/12 - Present

### website

<https://github.com/Green-Avocado/website>

- Used NodeJS with Express to serve web pages which are generated using a templating engine.
- Set up a reverse proxy using NGINX which secures connections using TLS and forwards requests to internal services.
- Used Docker to containerize internal services, allowing each service to be modified and restarted independently.
- Test website and scan for vulnerabilities using continuous integration.

2021/11 - 2022/01

### atom-ide-rust

<https://github.com/rust-lang/atom-ide-rust>

- Contributed to an open source plugin for integrating rust-analyzer into the Atom text editor.
- Used NodeJS to read config files, parse JSON data, and interface with a language server.
- Wrote documentation using markdown to explain the usage of the plugin with examples.
- The plugin has been downloaded over 164 000 times.

2021/12

### discord-balance-tracker

<https://github.com/Green-Avocado/discord-balance-tracker>

- Wrote a Rust application to track balances of users.
- Used asynchronous programming to interact with the Discord API.

2021/03

### Etwahl

<https://github.com/Green-Avocado/Etwahl>

- Wrote a program in C++ to receive inputs from an electronic piano and send keyboard inputs.

## Awards

---

2022/01

CyberSci Vancouver Regionals - First Place

2020/03

Vex EDR Alberta Provincial Tournament - Think Award

2019/04

U of Calgary Science Engineering and Technology Challenge - First Place

## Education

---

2020/09 - 2024/04

### Bachelor of Science, Major in Computer Science

University of British Columbia, Vancouver, BC