

Jason Ngo

Computer Science Major @ UBC

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Skills Summary

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

Work Experience

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

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

Hackathon Projects

2022/01	Language Exchange https://github.com/Green-Avocado/Language-Exchange <ul style="list-style-type: none"> DESCRIPTION.
2021/11	Speak-able https://devpost.com/software/speak-able-inclusive-unconferencing <ul style="list-style-type: none"> DESCRIPTION.
2020/08	Study Tinder https://devpost.com/software/study-tinder <ul style="list-style-type: none"> DESCRIPTION.
2020/08	BikePath https://devpost.com/software/bikepath-dkpstx <ul style="list-style-type: none"> DESCRIPTION.
2020/08	COVID Wait https://devpost.com/software/covid-wait <ul style="list-style-type: none"> DESCRIPTION.

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>
- DESCRIPTION.
- 2021/10 - 2022/01 **UBC MapleCTF**
<https://github.com/ubcctf/maple-ctf-ubc-2022>
- DESCRIPTION.
- 2021/09 - 2021/12 **EasyROP**
<https://github.com/Green-Avocado/EasyROP>
- DESCRIPTION.

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>
- DESCRIPTION.

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