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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**

- Wrote detailed technical documentation using LaTeX.

Technical Extracurriculars

2019/09 - Present — **CTF Competitions**
https://blog.jasonn.dev/ctf

- 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 reproducable 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**
Sir Winston Churchill High School, Calgary, AB

- 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

- DESCRIPTION.

2021/11 — **Speak-able**
https://devpost.com/software/speak-able-inclusive-unconferencing

- DESCRIPTION.

2020/08 — **Study Tinder**
https://devpost.com/software/study-tinder

- DESCRIPTION.

2020/08 — **BikePath**
https://devpost.com/software/bikepath-dkpstx

- DESCRIPTION.

2020/08 — **COVID Wait**
https://devpost.com/software/covid-wait

- DESCRIPTION.

Cybersecurity Projects

2021/03 - Present **pwndocker**
https://github.com/Green-Avocado/pwndocker
- DESCRIPTION.

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.

2021/03 **Etwahl**
https://github.com/Green-Avocado/Etwahl
- 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.

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