Sean Maher

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Personal Info

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Education

Hons. BSc Computer Science, Hons. BSc Math (Data Science)
University of Ottawa

Languages

C, Common Lisp, Python, x86-64 assembly, C++, Java, bash

Tools I use

git, emacs, unix text processing tools, radare2, Splunk, Elastic,

Natural Languages

English, French

Interests

Currently singing with the Capital Chamber Choir (capitalchamberchoir.ca)
9th grade RCM Voice, over 9 years of singing in choirs,
over 13 years of music

Experience

Google SWE Intern (Summer 2020)

Worked on the WebAssembly Standards team to port ARM Neon SIMD code to Wasm using a header-swap library in portable C
Contributed over 50 classes of intrinsic, each comprising 5-20 intrinsic functions, for a total of over 70k LoC and 52 merged PRs
Built a disassembler into radare2 for Wasm SIMD instructions

Bank of Canada Cyber Security (Summer 2019)

Worked with a team of 5 analysts to monitor the Bank of Canada
Developed an application from the ground up in Python and VB to analyze email and automate tedious parts of the team's workflow
Collaborated to build detections in Splunk for various TTPs, notably privilege escalation, lateral movement, and defense evasion

Projects

Bloatcheck (WIP) | *Common Lisp, distributed systems*

A webextension to show the size of JS loaded by websites before downloading them
Built a distributed web-crawler in Common Lisp
Working on on a distributed key-value store in CL, and a JS WebExtension

Text Editor (Sug) | *C, font rendering, graphics pipeline*

A handmade graphical text editor for X11
Implemented font parsing and rendering from scratch

spkr | *Python, Flask*

A small web-app written in Python with flask which allows users to login with their Spotify account, and will curate a playlist to cater to each user
Made for ConUHacks 2020.

Regular Expression Parser | *C, simple compiler internals*

Implemented recursive descent parser for a (mostly complete) subset of regex in C, and compilation to bytecode.

Flow (Won MLH Local Hack Day) | *Python, Bash [in team of 3]*

Used a RasPi to monitor density of people via network traffic
Developed website and Android app to display said data

Malware Reverse Engineering | *C, Asm, OS Components*

Studied x86-64 assembly, operating system internals, malware types and strategies and built reverse engineering challenges for a student CTF.