William Findlay

github.com/willfindlay ● williamfindlay.com
(613) 296-1240 ● william@williamfindlay.com

EDUCATION

Master of Computer Science *Carleton University*
September 2020 - April 2021 *Ottawa, ON*
Accelerated Master's Program
CGPA: 12.00 (A+) (*Course work completed during bachelor's degree*)

Bachelor of Computer Science Honours *Carleton University*
September 2015 - April 2020 *Ottawa, ON*
Computer and Network Security Stream
Accelerated Master's Program
Graduated with High Distrinction
CGPA: 11.05 (A)

WORK EXPERIENCE

Research Assistant (Linux OS Security) *Carleton University*
April 2019 - Present *Ottawa, ON*

- Researching the viability of eBPF-based implementations for intrusion detection and confinement under GNU/Linux.
- Designed and implemented ebpH, an intrusion detection system based entirely on eBPF system introspection.
- This research was the subject of my 2019/2020 honors thesis. You can read my thesis at https://williamfindlay.com/written/thesis.pdf.

Teaching Assistant (COMP3000 Operating Systems) *Carleton University*
September 2018 - Present *Ottawa, ON*

- Nominee for the Outstanding Teaching Assistant Award in both the 2018/2019 and 2019/2020 academic years.
- Assisted the professor in development of course material.
- Ran tutorial sessions for groups of 50 students.
- Took a leadership role to ensure tutorials proceeded smoothly.
- Held weekly office hours and workshops for students.
- Graded assignments and tests and gave appropriate feedback.

Service Department Supervisor *Metro Ontario, Inc.*
April 2014 - January 2018 *Ottawa, ON*

- Managed day-to-day operations in the front end service department.
- In charge of store payroll and accounting on a part-time basis.
- Exhibited superior customer service skills as required.

PROJECTS (See more on GitHub)

ebpH (eBPF Intrusion Detection System)

- An intrusion detection system for Linux written entirely in eBPF and Python3.
- Establishes per-executable system call profiles in order to establish normal behavior and detect anomalies.
- Full source code available: https://github.com/willfindlay/ebph

bpf-keylogger (eBPF Keylogger Program)

- Fully functional keylogger for GNU/Linux written in eBPF and Python3.
- Full source code available: https://github.com/willfindlay/bpf-keylogger

LANGUAGES

Programming
10,000 or more lines
C, C++, Python

5,000 - 10,000 lines
Java, Javascript

1,000 - 5,000 lines
Vimscript, R, Rust, Golang

Markup
LaTeX, HTML, CSS, Markdown

Human
English, French

WORKFLOW

Operating System
GNU/Linux (Arch Linux)

Window Manager
i3wm

Shell
Zsh

Text Editor
Vim

Version Control
Git, GitHub

TECHNOLOGIES

Kernel Development
eBPF, XDP, bcc

Application Development
flask, node.js, Qt

Data Science
numpy, scipy, pandas, R

SKILLS

Technical
- Linux kernel development
- Low level systems programming in C, C++, and Rust
- Python scripting
- Technical writing and documentation

General
- Research
- Communication
- Team leadership