

William Findlay

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EDUCATION

Master of Computer Science *Carleton University*
September 2020 - April 2021
Accelerated Master's Program
CGPA: 12.0 (A+) (*Course work completed during bachelor's degree*)
Ottawa, ON

Bachelor of Computer Science *Carleton University*
September 2015 - April 2020
Computer and Network Security Stream
Accelerated Master's Program
CGPA: 11.5 (A)
Ottawa, ON

WORK EXPERIENCE

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

- Researching the viability of eBPF-based implementations for intrusion detection systems on the GNU/Linux operating system.
- Designed and implemented ebpfH, 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](#))

ebpfH (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 at <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 at <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

L^AT_EX, 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

- eBPF, XDP, bcc
- gdb
- flask
- numpy, scipy, pandas
- Qt

TECHNICAL SKILLS

- Linux kernel development
- Low level systems programming
- Python scripting, Golang
- Technical writing and documentation

GENERAL SKILLS

- Team leader
- Dedicated
- Goal-oriented