

Rhys Rustad-Elliott

me@rhysre.net

rhysre.net | [/in/rhysrustadelliott](https://in/rhysrustadelliott)

Experience

Google

Software Engineering Intern, Tools and Infrastructure

Kirkland, Washington
May 2019 – Aug 2019

- Starting May 2019

Okta

Software Engineering Intern, Engineering Productivity

Toronto, Ontario
May 2018 – Jul 2016

- Implemented a horizontally-scalable system to analyze AWS costs using Redis-based distributed locking, identifying thousands of dollars in potential savings
- Created a Java/Spring Boot-based microservice and associated frontend to gather and display a variety of metrics on Okta's in-house CI system relevant to engineers and managers
- Wrote a detailed deployment guide for a sparsely documented internal credential management system
- **Technologies used:** Java EE, Spring Framework, MySQL, Redis, Maven, Hibernate, JavaScript, React

Hootsuite

Software Engineering Intern

Vancouver, British Columbia
Jun 2016 – Aug 2016

- Reworked Hootsuite's Chrome extension to automatically detect HTTP security headers blocking its use
- Created a UI test for Hootsuite's bulk composer tool using an in-house Selenium-based testing framework
- Participated in iterative development on several features for the Hootsuite Publisher
- **Technologies used:** JavaScript, React, HTML/CSS, PHP, Selenium, Chrome Extension APIs

Projects

More at github.com/GunshipPenguin

Shallow Blue, A strong **chess engine** written in C++11

- Generates roughly 20 million chess moves per second using a fast bitboard-based move generator
- Accurately assesses black/white advantage using a sophisticated evaluation function
- Implements a highly-tuned principal variation search algorithm making use of several heuristics
- Integrates seamlessly with any UCI compliant chess GUI

Nescafé, an accurate **Nintendo Entertainment System emulator** written in C#

- Supports the majority of published NES games through emulation of vendor-specific cartridge hardware
- Emulates the NES's Ricoh 2A03 CPU, graphics chip and memory-mapped I/O
- Reproduces hardware bugs present in the original NES for accurate emulation

lib8080, a well tested **emulation library for the Intel 8080 CPU** written in C

- Enables easy emulation of the Intel 8080 CPU in external projects
- Emulates all documented and undocumented instructions in the Intel 8080's instruction set perfectly
- Runs Microsoft's Altair BASIC 3.2 (1975) when integrated with an emulated teletype machine

Education

University of Toronto

Honours Bachelor of Science (Computer Science)

Toronto, Ontario
2016 – 2020

- Dean's list (2016)
- Entrance scholarship recipient

Miscellaneous

- Linux Professional Institute LPIC-1 certified
- University of Toronto ACM-ICPC Programming Contest team member, 2016 & 2017
- Winner, Best Fintech Hack, PennApps XVI
- Perfect score, 2014 Junior Canadian Computing Competition